



The types of marine molluscan species described by Monterosato, in the Museo Civico di Zoologia, Roma. General scope of the work, and part 1: the opisthobranch gastropods

Marco Oliverio & Lionello P. Tringali

Personne n'a connu aussi bien que lui la faune malacologique de la Méditerranée.
(DAUTZENBERG, 1928)

He was an extraordinarily accurate and careful observer, and it was very, very seldom that one could challenge his decision in the discrimination of a species; the smaller the shell, the more exact and reliable was his comprehension of it.
(TOMLIN, 1930)

One needs only glance through any major modern guide to the marine mollusks of the Mediterranean to find the name of Monterosato associated with almost every family of marine shells.
(ABBOTT, 1982)

KEY WORDS: Cephalaspeida; Mediterranean; Monterosato; nomenclature; types; Opisthobranchia; Thecosomata.

ABSTRACT The project for a revision of the types of marine species described by T. Di Maria, known as Monterosato, kept in the Museo Civico di Zoologia, Roma (ZMR) is presented, with the purpose of providing a clear check-list of these types with the best possible iconography. The problems encountered while carrying out the project are reported, together with comments on the problematic history of the Monterosato collection. In this first part, the types of the opisthobranchs have been examined. Monterosato introduced ten available specific names, and an infrasubspecific name, raised to subspecific rank by F. Nordsieck before 1985, now regarded as belonging to the opisthobranchs. They are: *Acteon candidulus* Monterosato, 1923, *Ringicula conformis* Monterosato, 1877, *Cylichnina crebrisculpta* Monterosato, 1884, *Haminoea bydatiss* var. *cymoeium* Monterosato, 1923, *Spirialis diversa* Monterosato, 1875, *Coleophysis effusa* Monterosato, 1890, *Pbiline intricata* Monterosato, 1884, *Utricularius minutissimus* Monterosato, 1878, ex H. Martin MS., *Pbiline monterosati* Monterosato, 1874, ex Jeffreys MS., *Ambispyra quadrata* Monterosato, 1874, *Pbiline striatula* Monterosato, 1874, ex Jeffreys MS. Type material of all the species have been found in the Monterosato coll. (ZMR), and is here documented. The authors preliminary discuss the identity of the mentioned specific names.

RIASSUNTO Gli autori presentano il progetto per l'individuazione dei tipi delle specie di molluschi marini descritte dal Monterosato e conservate nella sua collezione, presso il Museo Civico di Zoologia, Roma (ZMR). Gli autori si propongono di giungere ad un elenco completo dei tipi conservati, offrendone anche, per quanto possibile, una buona iconografia. Le difficoltà connesse all'attuazione di tale progetto vengono presentate, commentando anche i problemi storici della collezione Monterosato. Vengono qui indicati i criteri sulla base di quali è considerato come tipico il materiale presente nella collezione. In questa prima parte, sono stati esaminati i tipi degli opistobranchi. Gli autori discutono l'identità e disponibilità dei nomi introdotti dal Marchese, identificandone i tipi. Undici nomi di opistobranchi sono considerati disponibili nel senso dell'ICZN (1999: Art. 12): *Acteon candidulus* Monterosato, 1923; *Ringicula conformis* Monterosato, 1877; *Ambispyra quadrata* Monterosato, 1874; *Cylichnina crebrisculpta* Monterosato, 1884; *Coleophysis effusa* Monterosato, 1890; *Utricularius minutissimus* Monterosato, 1878, ex H. Martin MS.; *Haminoea bydatiss* var. "cymoeium" Monterosato, 1923; *Pbiline intricata* Monterosato, 1884; *Pbiline monterosati* Monterosato, 1874, ex Jeffreys MS.; *Pbiline striatula* Monterosato, 1874, ex Jeffreys MS.; *Spirialis diversa* Monterosato, 1875. *Acteon candidulus* – di cui restano soltanto due sintipi – sembra basato su conchiglie scolorite e erose di *Acteon tornatilis* (Linné, 1758) (cf. SMRIGLIO & MARIOTTINI, 1996). Parecchi sintipi di *Ringicula conformis* sono conservati al Museo. Questa specie è certamente distinta da *Ringicula auriculata* (Menard de la Groye, 1811), sia per la presenza di un dente parietale in più, che per la protoconca dal nucleo meno sporgente e con diametro inferiore – la presenza di una protoconca I e di una protoconca II indica che *conformis* avrebbe sviluppo planctotrofico. *Ambispyra quadrata* – di cui resta poco materiale in mediocre stato di conservazione – sembra essere un sinonimo di *Colpodaspis pusilla* M. Sars, 1870. «*Diaphana quadrata* (Monterosato, 1874)» *sensu* NORDSIECK (1972) è specie diversa, forse non descritta (cf. OLIVERIO, 2000). Tutto il materiale tipico di *Cylichnina crebrisculpta* nel Museo, identificabile come tale, è costituito da due conchiglie di Palermo. La distinzione delle specie a spira immersa del genere *Retusa* T. Brown, 1827 – spesso attribuite al (sotto)genere *Cylichnina* Monterosato, 1884 – appare ardua, tuttavia *C. crebrisculpta* potrebbe rientrare nella variabilità di *Retusa strigella* (Lovén, 1846) – l'identità di *Bulla umbilicata* Montagu, 1803, data per evidente in letteratura, è, invece, tutt'altro che chiara e perciò è qui adottato il nome di Lovén. Il materiale tipico di *Coleophysis effusa* – 5 conchiglie – è stato identificato mediante un complesso di indizi, non essendo stato cartellinato come tale per mano di Monterosato stesso. La specie sembrerebbe essere una forma a debole scultura assiale di *Retusa truncatula* (Bruguière, 1792), forse prossima alla forma "pellucida" T. Brown, 1827. *Utricularius minutissimus* è rappresentato da numerosi sintipi nella collezione. Erroneamente collocata da vari autori in *Pyramculus* Pilsbry, 1895, è, in realtà, una vera *Retusa*, come mostrano la conchiglia e le piastre gastriche; è distinta da *R. obtusa* (Montagu, 1803), di cui a volte, soprattutto dagli Autori nordici, è stata considerata forma immiserita delle acque mediterranee. Il nome *Haminoea bydatiss* var. *cymoeium* è stato elevato al rango di sottospecie prima del 1985 (NORDSIECK, 1972) e, perciò, è nome disponibile. Al Museo se ne conserva l'olotipo, che, tuttavia, appare determinabile come una *Haminoea bydatiss* (Linné, 1758) scolorita. In linea con VAN DER LINDEN (1994), gli autori considerano che il nome *Pbiline intricata* sia stato validamente introdotto da MONTEROSATO (1884), piuttosto che da MONTEROSATO. (1875), che non contiene nessuna caratteristica descrittiva della specie. Il materiale relativo a *Pbiline intricata* è abbastanza ricco, laddove sono pochi i sintipi di *Pbiline monterosati*, di cui sono qui raffigurate anche i denti radulari e le piastre gastriche. *Pbiline striatula* è una vera *Pbiline* Ascanius, 1772, una specie valida per la quale è da adoperare questo nome. Oltre che presente in Mediterraneo e lungo le coste europee occidentali, vive anche in Africa occidentale. L'unico Thecosomata Blainville, 1824, descritto da Monterosato è *Spirialis diversa*, specie valida, già largamente discussa in letteratura, di cui sono stati rinvenuti nella collezione pochi sintipi in cattivo stato, ma ben riconoscibili. I nomi *Tornatina detroncata*, *Bulla globosa*, *Pbiline* [o *Laona*] *membranacea*, *Cylichna obesiuscula*, *Retusa* (*Coleophysis*) *pyriformis* [o *piriformis*], *Bulla subquadrata*, attribuiti da alcuni autori a Monterosato, non furono mai introdotti dal Marchese in modo valido; nella maggior parte dei casi, anzi, non sono neppure citati nei suoi scritti.

M. OLIVERIO, Dipartimento di Biologia Animale e dell'Uomo, Viale dell'Università 32, I-00185 Roma ITALY. E-mail: marco.oliverio@uniroma1.it
L. P. TRINGALI, Via E.L. Cerva 100, I-00143 Roma, Italy. E-mail: lptringali@lynxlab.com



GENERAL SCOPE OF THE WORK

There is no doubt that Tommaso Di Maria, nobleman of the barons of Allery, and marquis of Monterosato (Palermo, June 27th, 1841 - *ibidem*, March 1st, 1927) was among the leading European malacologists in the second half of the nineteenth century. Along with John Gwyn Jeffreys, Wilhelm Kobelt, Philippe Dautzenberg, Georg Ossian Sars, he produced outstanding works on the systematics and the biogeography of the Northeast Atlantic molluscs, mainly marine, Fossil and Recent. The excessive inclination for splitting affecting his latest works – admitted, even critically, by the Marquis himself (see e.g. MONTEROSATO, 1896: 20 \1104; 1906: 130 \1162) – does not compromise such a wide and significant malacological corpus. The major outcomes within his works are certainly his highly valuable check-lists of Mediterranean seashells (MONTEROSATO, 1872; 1875; 1878a; 1884), although several minor notes also contain significant contributions. A large number of generic and specific names were introduced in his works, many of which are currently employed. He introduced more than five hundred species-level names. Some 70% of these are available, but further specific names, originally introduced as variety names, were later on raised to (sub)specific rank by other authors and thus also made available.

The usually concise, even telegraphic descriptions written by Monterosato are in several cases exceptionally keen, fully displaying his skill to outline the shell morphology of a species by means of few incisive words, yet frequently they may leave some doubts, fitting more than one entity likewise. Therefore the reference to the type material is needed to define the identity of the most enigmatic specific names coined by the Marquis. However, this procedure has been at all problematic in the past. The Monterosato collection – «d'une richesse incomparable» in DAUTZENBERG's (1928) words, being among the most imposing historical collection of Mediterranean seashells and Italian continental shells – is kept in the Museo Civico di Zoologia di Roma [= Township Zoological Museum of Rome" (ZMR)] since about 60 years, and it has been unavailable for study since many and many years with sporadic exceptions only.

The authors have been asked by the Scientific Staff of the ZMR to start a critical reordering of the type material of Monterosato's marine species in the ZMR. We started to work on that material in the summer 1997, meeting some hard problems of which the worst was the disorder affecting the collection, a fatal consequence of its troubled history (see e.g., SETTEPASSI, 1985; PIANI, 1982; 1984). At the beginning of his eighties Monterosato promised the collection to a fellow-citizen and collector, the commendator Vito Beltrani in order to ease his difficult economic situation. It seems that the agreement with Beltrani allowed the Marquis to keep for study the collection until the age of eighty-five. Anyway it was definitively lost by Monterosato a year before his death, Beltrani having taken legal proceedings to obtain it. In 1941 a grandson of Beltrani sold the collection to the Zoological Garden of Rome – which included the ZMR up to few years ago – and afterwards it was transferred to the ZMR, where the lots were filed by a Curator of the Museum in the late 1940s or, more probably, in the firsts 1950s.

It is difficult to assess how much the collection was altered by

Monterosato himself during his latest years, and by Beltrani. It is well-known that, before the arrival in Rome, important material had already been moved elsewhere. For instance, a good deal of important material is presently stored in the Coen collection at the Hebrew University (Jerusalem) (cf. PIANI, 1984). Furthermore, Monterosato exchanged material with many malacologists around the world, as it is witnessed by the large amount of Monterosato's lots presently in several public collections (USNM Washington, NHML London, MNHN Paris etc.). We have noticed that the labels of many lots were never updated by the Marquis – possibly due to lack of time; see below, the case of *Coleophysis effusa* Monterosato, 1890, and its type material – a fact that obviously increases the difficulty to identify the types. During more than fifty years of permanence in the ZMR, the Monterosato collection was never submitted to any systematic long-term study, until the present project, nor to periodical operations for conservation. Only two Curators had been in charge at the Malacological Section of the ZMR in the last thirty years. The former one, the late Francesco Settepassi, was a very appreciable person, and an amateur malacologist with true passion and good aims. It is to remember that the Monterosato collection came in the ZMR also thanks to Settepassi's advice (cf. SETTEPASSI, 1985). However, it is evident that during his period of activity at the ZMR, ended by his death in 1981, much material was shifted in a chaotic way from the Monterosato collection to other collections in the Malacological Section of the ZMR, while it is likely that some other lots were definitely lost. Beyond all doubts, the "deepest impact" on the Monterosato collection during this period was due to the Malacological Exhibit of Palazzo Braschi in Rome (October 1976), prepared by a team of enthusiastic and willing collectors. Many shells from the Monterosato collection, including syntypes of species by Monterosato, Brugnone, Tiberi, Jeffreys, Brusina, Crosse, Granata-Grillo, Palarly, and others (cf. ANONYMOUS, 1976), were employed, with very little care indeed for both the material (fixed by means of generous quantities of glue on boards, or, if rejected in the final selection, left out of the Monterosato coll., in total disorder) and the original labels, which were lost in part, the remaining ones being often hard or impossible to associate with the lots now. Frequently, the material from the Monterosato collection is mixed with samples from other sources (F. Settepassi collection ZMR, Roman private collections) without any indication useful to identify it.

After Settepassi's death, Dr. Flavia Gravina, a biologist, yet not a malacologist, worked for few years at the ZMR, appointed at the Malacological Section. Since the 1980s up to the beginning of the 1990s the ZMR benefited also the contribution of the late Mrs. Angelina Gaglini, an amateur, yet experienced malacologist, who, gleaning in the Monterosato collection, published some reports (e.g. GAGLINI, 1987; 1991; 1992) until her premature decease. Alongside these papers, a few further occasional notes have been published in the last twenty years being based on the material of the Monterosato collection, mostly on the Italian journals *Notiziario C.I.S.Ma.* and *Bollettino Malacologico*.

Basing on our preliminary survey, the general conditions of the Monterosato collection leaves much to desire. Many lots are out of place, a fact that makes rather long and difficult to find the mater-



ial. Furthermore, there is a serious problem of conservation to solve: as frequent in nineteenth century collections, most old glass tubes are corked, with damp deposits inside. This precludes the dangerous formation of butyrate crystals, which may radically alter or even destroy the preserved shells. Unfortunately we have noticed that the butyrate crystals are already damaging some material. PIERSANTI (1942: 252), who was in charge of estimating the Monterosato-Beltrani collection for the purchase by the Direction of the Zoological Garden of Rome, valued at about three millions the number of specimens. This approximate estimate gives a clear indication of the richness of the collection, and the difficulties of a radical conservative intervention. On the other hand the Monterosato collection represents an Aladdin's cave for Mediterranean malacology, containing beside the myriad of shells collected by Monterosato himself, also the collections of Adami, of the abbot Brugnone (including those of Benoit, Libassi, and partly of Calcara), and of Tiberi (the marine material only), as well as much material, including also syntypes, received from many nineteenth century malacologists and collectors: de Folin, Granata-Grillo, Pallary, de Boury, Dautzenberg, Aradas, De Gregorio, Jeffreys, Hanley, A. Issel, P. Fischer, Paulucci, Del Prete, J.T. Marshall, Nobre, Coppi, McAndrew, Weinkauff, Hidalgo, Chaster, Morlet, H. Martin, von Maltzan, Pantanelli, Crosse, R.B. Watson, Petit de la Saussaye, Brusina, Praus Franceschini, Kobelt, Sulliotti, Coen, Jordan, Tomlin, Locard, Terquem, Sacco, Westerlund, Milaschewich, G. Seguenza, and many others. Moreover, Monterosato also obtained from his correspondents material from older authors (e.g. Risso and Scacchi); finally, some types of species described by malacologists of our days were selected among the shells of this monumental collection. Therefore it goes without saying that the full safeguard and reordering of such an outstanding collection is both a scientific and historical duty.

Our project is to single out all Monterosato's marine molluscan types in the ZMR, together with reordering the material and publishing the results of the survey with the best possible iconography. The present contribution is the first step in this work - see below for further details. The level of critical analysis of the material will depend on our experience on the relevant group. Some years ago the Pyramidelloidea of Monterosato were studied by Italo Nofroni (Rome), who worked also on the type material in the ZMR: the results of his survey will be published elsewhere.

As general criteria in the identification of the type material we have adopted the following: (1) all the material explicitly marked as type material by Monterosato himself is obviously typical; (2) all the material from localities quoted in the work where a species was described, or in previous works by Monterosato, is typical if there are no clues suggesting its later collecting - e.g. being dated as later than the description - or its origin from a different correspondent than those quoted in the works; (3) all the material labelled as collected before the publication date of the description is regarded as type material; (4) all the lots indicating the name of the sender, yet not the locality and/or dating, if he is quoted with the description or in previous works is regarded as type material; (5) all the material in lots with doubtful or no indication on the provenance, the sender and the dating, is regarded as not typical; however (6) in very special cases of species lacking further type

material, we have regarded as possible types also the material from lots without - or with doubtful - locality data, sender and date; (7) in some further cases, very problematic, we have considered type material even lots without a clear identification by hand of Monterosato, yet identifiable by further details - date, provenance, etc. - as the specimens Monterosato had in his hands describing the species. Peculiar cases will be discussed under their specific remarks.

The pages from Monterosato's works are here quoted by referring to the page numbers of the original works, and, between inverted slashes (e.g.: \138), to those of the *Opera omnia*, namely the complete malacological works (MONTEROSATO, 1869-1923) collected and edited by Riccardo Giannuzzi Savelli, with the help of Piero Piani, published by the Società Italiana di Malacologia from 1982 to 1989.

DISCLAIMER

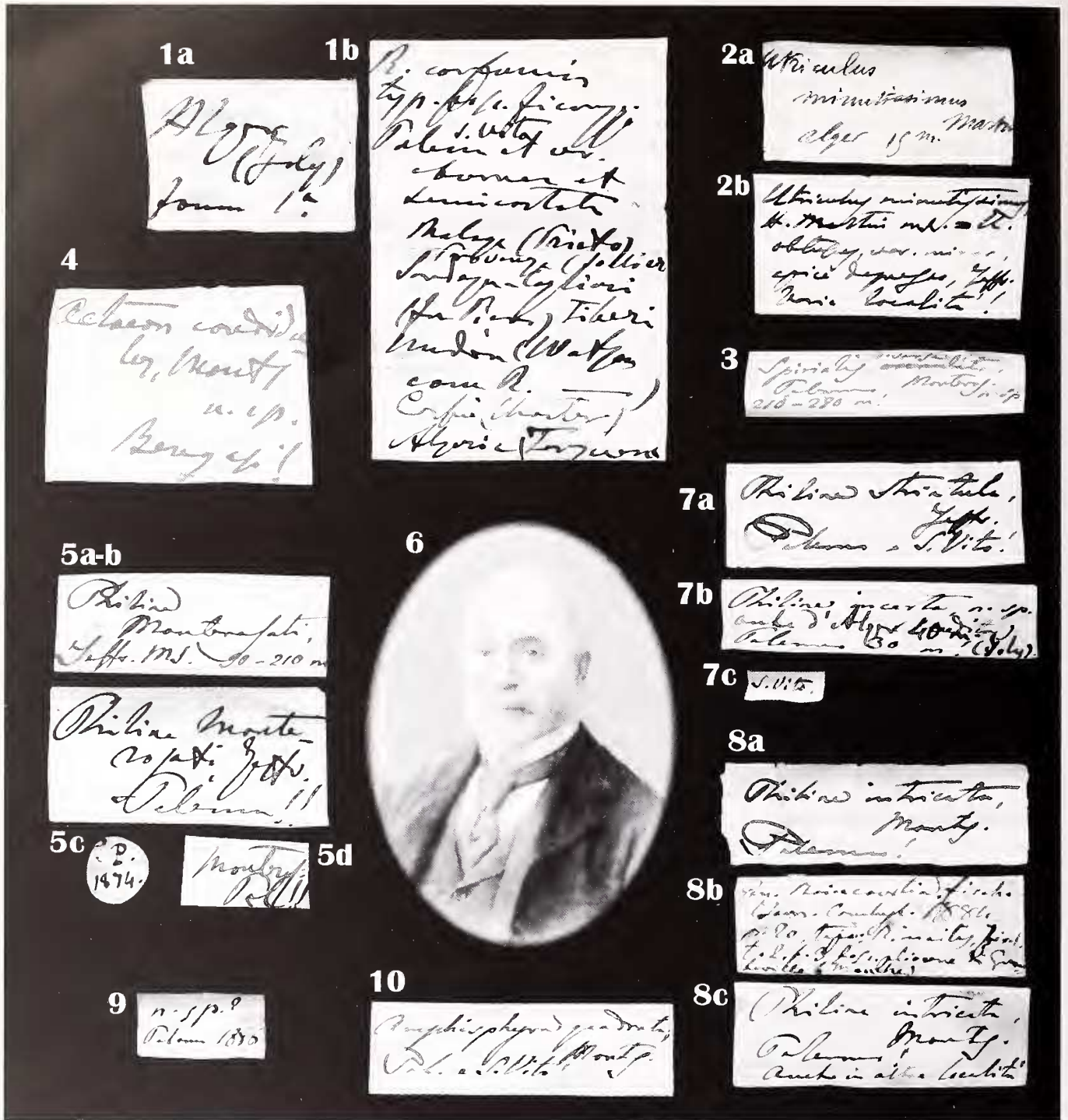
In some cases we will report unpublished names, often found in the original labels. We do not intend by these citations to introduce new names. They are only reported to facilitate tracking of the material or to elucidate the history of nomina nuda.

MONTEROSATO'S OPISTHBRANCH TYPES

Monterosato introduced ten available specific names, now regarded as belonging to the opisthobranchs. In addition, an infra-specific name was raised to subspecific rank by a later author before 1985, becoming an available (sub)specific name according to the ICZN (1999: Art. 45.6). Thus the total is of eleven specific names:

- *Acteon candidulus* Monterosato, 1923
- *Ringicula conformis* Monterosato, 1877
- *Cylichnina crebrisculpta* Monterosato, 1884
- *Haminoea bydati* var. *cymoelium* Monterosato, 1923
- *Spirialis diversa* Monterosato, 1875
- *Coleophysis effusa* Monterosato, 1890
- *Pbiline intricata* Monterosato, 1884
- *Utriculus minutissimus* Monterosato, 1878, ex H. Martin MS.
- *Pbiline monterosati* Monterosato, 1874, ex Jeffreys MS.
- *Ampbispyra quadrata* Monterosato, 1874
- *Pbiline striatula* Monterosato, 1874, ex Jeffreys MS.

Eight species belong to the Cephalaspidea P. Fischer, 1883 [= Bullomorpha Pelseneer, 1906]; two others, traditionally regarded as cephalaspidean gastropods, are now in a problematic position, belonging to the Acteonidae Orbigny, 1835, and the Ringiculidae Philippi, 1853, respectively, thus awaiting for a better defined systematic position (see MIKKELSEN, 1996: 416); finally, there is a single specific name of the Thecosomata Blainville, 1824. Considering the large amount of new specific names in Monterosato's works, the opisthobranch names introduced by the Marquis are rather few indeed. Yet, Monterosato was here more careful than elsewhere, publishing very few nomina nuda (there are also few unpublished nomina in schedis in the Monterosato collection); thus, most opisthobranch names are available having been introduced with a description or an indication (ICZN, 1999: Art. 12).



Figs. 1-10. Original labels of the type material, and a photo of the Marquis – Figs. 1a-b: *Ringicula conformis*, «Algers (July) forma 1^a». Figs. 2a-b: *Utriculus minutissimus* – Fig. 2a: label in the lot from Algers, 15 m; Fig. 2b: label on the bottom of the box 16015. Fig. 3: *Spiralis diversa* Fig. 4: *Acteon candidulus*. Figs. 5a-d: *Philina monterosati* (Fig. 5c: cork of the tube with the syntype found within the material of the Exhibit). Fig. 6: Tommaso Di Maria, dei Baroni di Allery, Marchese di Monterosato. Fig. 7a-c: *Philina striatula* (note that on the label in Fig. 7b the species is named «*Philina incerta n. sp.*», a manuscript name; Fig. 7b is the label on the bottom of the box 16322). Figs. 8a-c: *Philina intricata*. Fig. 9: *Coleophysis effusa*. Fig. 10: *Amphispira quadrata*. – All but one labels by hand of Monterosato; the label in Fig. 2a by hand of Joly.

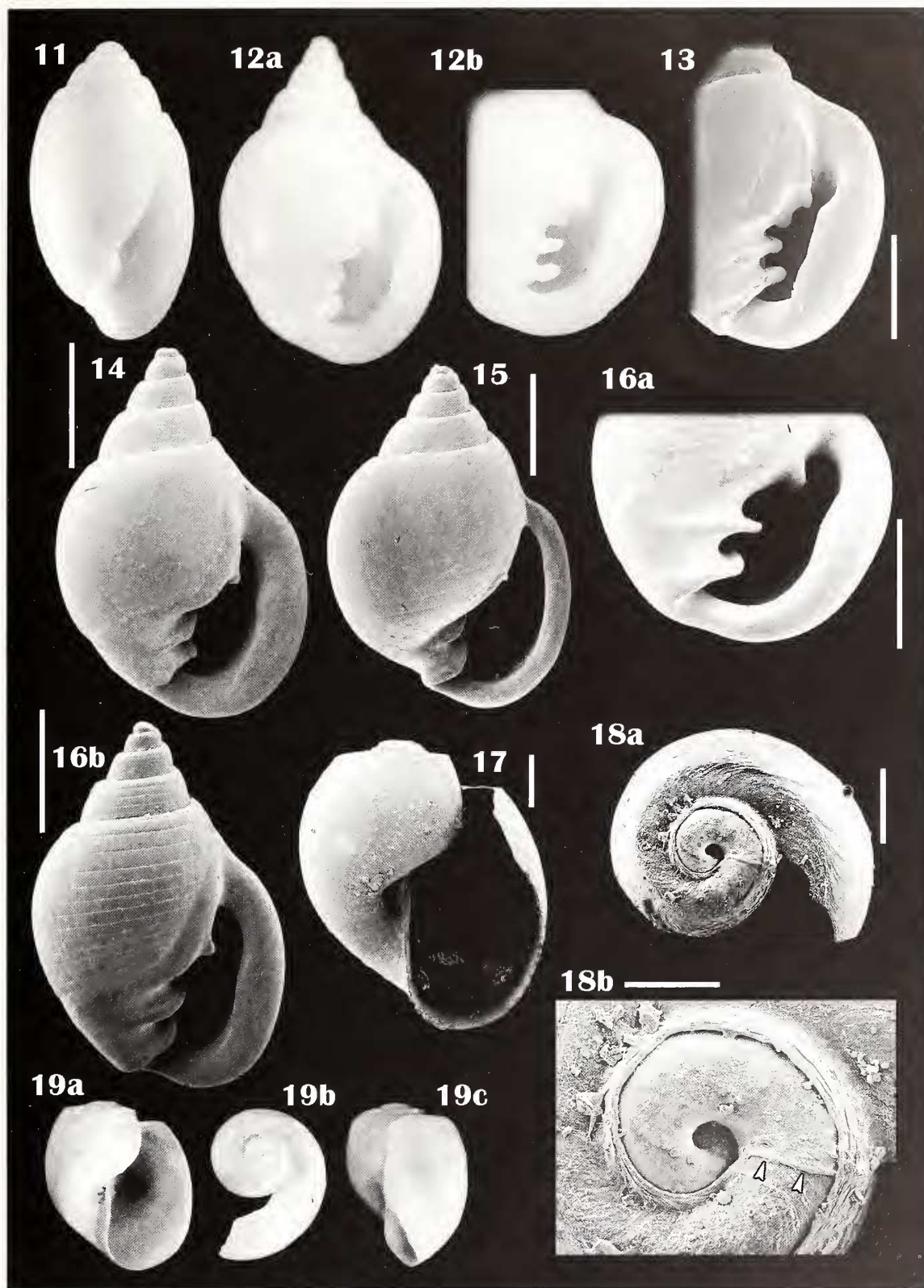


Fig. 11: *Acteon tornatilis* (Linné), syntype of *Acteon candidulus*, Bengasi (Libya) (h: 8.0 mm). Figs. 12-15: *Ringicula conformis* – Figs. 12a-b: syntype, labelled «Algiers (Joly) forma 1^a», Algiers (h: 2.9 mm) (note the couple of parietal teeth); Fig. 13: West Sahara, between 24°-25° N lat, 40-60 m, from stomach contents of flatfish (fam. Pleuronectidae) (note the couple of parietal teeth); Fig. 14: syntype, Algiers (labelled «Algiers (Joly) forma 1^a»); Fig. 15: syntype, Algiers (labelled as «Algiers (Joly) forma 2^a»). Figs. 16a-b: *Ringicula auriculata* (Ménard de la Groye), Algiers (P. Joly legit, Monterosato coll.) (note the single parietal tooth). Fig. 17-19: *Colpodaspis pusilla* (M. Sars), syntypes of *Amphispyra quadrata* – Fig. 17: between Cape San Vito and Palermo; Figs. 18a-b: Cape San Vito; Figs. 19a-c: between Cape San Vito and Palermo (h: 1.1 mm). Scale bars: 1.0 mm (13, 14, 15, 16b); 200 µm (17, 18a); 100 µm (18b).

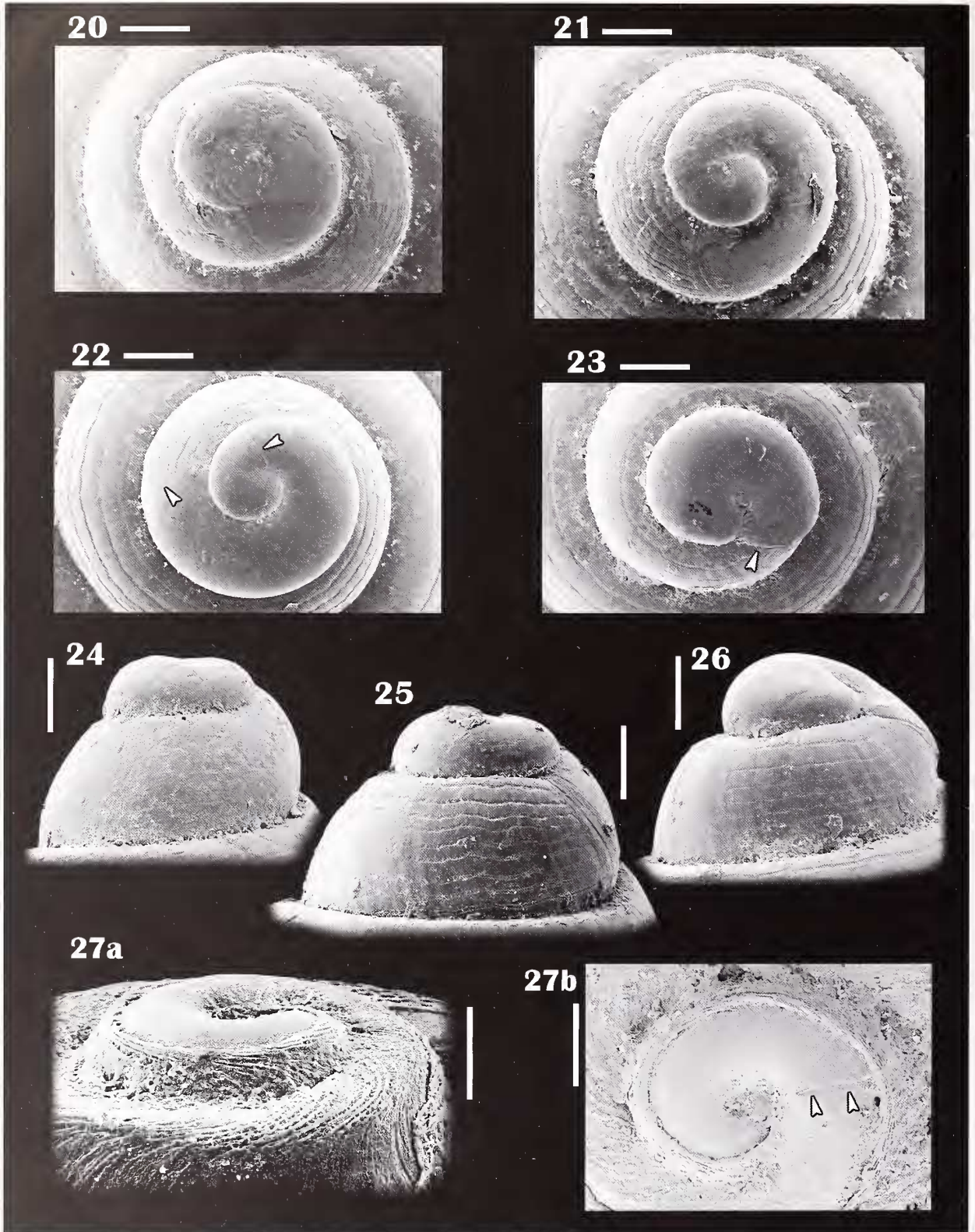


Fig. 20-22: *Ringicula conformis*, protoconch in apical view - Fig. 20: paralectotype, Algiers (labelled as «Algiers (Joly) forma 1^a»); Fig. 21: paralectotype, Algiers (labelled as «Algiers (Joly) forma 2^a»); Fig. 22: West Sahara (data as Fig. 13) (arrows point to the boundaries between protoconch 1-protoconch 2, and between protoconch-teleoconch) (F. Gubbioli legit, LPT coll.). Fig. 23: *Ringicula auriculata* (Ménard de la Groye), Algiers (Monterosato coll.) (arrow points to the protoconch-teleoconch boundary). Figs. 24-25: *Ringicula conformis*, protoconch in lateral view - Fig. 24: paralectotype, Algiers (labelled as «forma 1»); Fig. 25: paralectotype, Algiers (labelled as «forma 2»). Fig. 26: *Ringicula auriculata* (Ménard de la Groye), Algiers, protoconch in lateral view. Figs. 27a-b: *Colpodaspis pusilla*, protoconch, Persgrund, Koster Area, (Western Sweden), sand-clay, 20-40 m (C. Schander legit, LPT coll.) (arrows on Fig. 27b point to protoconch-teleoconch boundary). Scale bars: 100 μ m.



Like for many other groups of seashells, Monterosato fully displayed also on Mediterranean opisthobranchs his wide and deep knowledge. Most of the described taxa are valid species; a good part of them are the valid names to use (ICZN, 1999: Art. 23).

Generally speaking, the opisthobranch lots in the Monterosato collection are in much better condition than other groups, arguably because opisthobranchs have not elicited a great interest by the collectors and malacologists who could access to the collection in the past. Despite some syntypes being obviously lost, we have been able to identify type material for all the opisthobranch taxa introduced by Monterosato. In some cases, this was by means of a complex of circumstantial, yet convincing evidences. The quoted type material is accompanied by remarks on each species. Some names of varieties described by Monterosato have never obtained the status of available names, having not been used at a (sub)specific rank by any workers before 1985. Being now unavailable names, they have been excluded from the list.

Abbreviations and acronyms

coll.: collection;
 frg./frgs.: shell fragment(s);
 LPT: Lionello Paolo Tringali, Rome;
 MO: Marco Oliverio, Rome;
 sh./shs.: specimen(s) collected without soft parts;
 spm./spms.: specimen(s) collected with soft parts;
 ZMR: Township Zoological Museum, Rome, ("Museo Civico di Zoologia, Roma").

The notation «!» in the original labels and in the works by Monterosato stands for "personally checked".

Notice also that «Ficarazzi», frequently quoted in the labels and works by Monterosato, is the locality in the district of Palermo, not the homonym near Catania (both in Sicily).

SYSTEMATIC PART

Ordo CEPHALASPIDEA P. Fischer, 1883 [s.l.]
 Familia ACTAeonIDAE Orbigny, 1835

candidulus, *Acteon* Monterosato, 1923

First valid introduction - MONTEROSATO (1923: 12 \1317\; unnumbered pl. \1319\, fig.17), by means of a description and a figure.

Type material - Two sh. from Bengasi (Libya), unrecorded depth, (C. Crema legit) from the box 16053 (original label: «*Actaen candidulus*, Monts. n. sp. Bengasi!»; Fig. 4) (Fig. 11).

Remarks - The locality on the label fits the locality quoted for the shell figured by MONTEROSATO (1923). Despite that photo published with the original description is of poor quality, it may be reasonably argued that the shell is the same here figured. It is a rather worn and faded shell. The unfigured syntype is even in worse conditions, being also broken. MONTEROSATO (1923) wrote to had obtained «Tre soli esemplari, dei quali uno intero» (viz.

«Only three specimens, a single one of which being complete»). However SMRIGLIO & MARIOTTINI (1996: 189, 191; 190, figs. 17a-18b) found and figured only two shells from the Monterosato collection, box 16053. The files listing the material arrived to the ZMR remark that the box 16053 contained two shs of *A. candidulus*. Therefore the third shell was lost before the collection arrived at the ZMR. As already noticed by SMRIGLIO & MARIOTTINI (1996) the syntypes seem to be worn shells of *Acteon tornatilis* (Liné, 1758), thus making *A. candidulus* a junior synonym of the latter. Although the variable shell morphology of *Acteon tornatilis* could possibly conceal a complex of species, we think that the conclusion by SMRIGLIO & MARIOTTINI (1996) must be accepted.

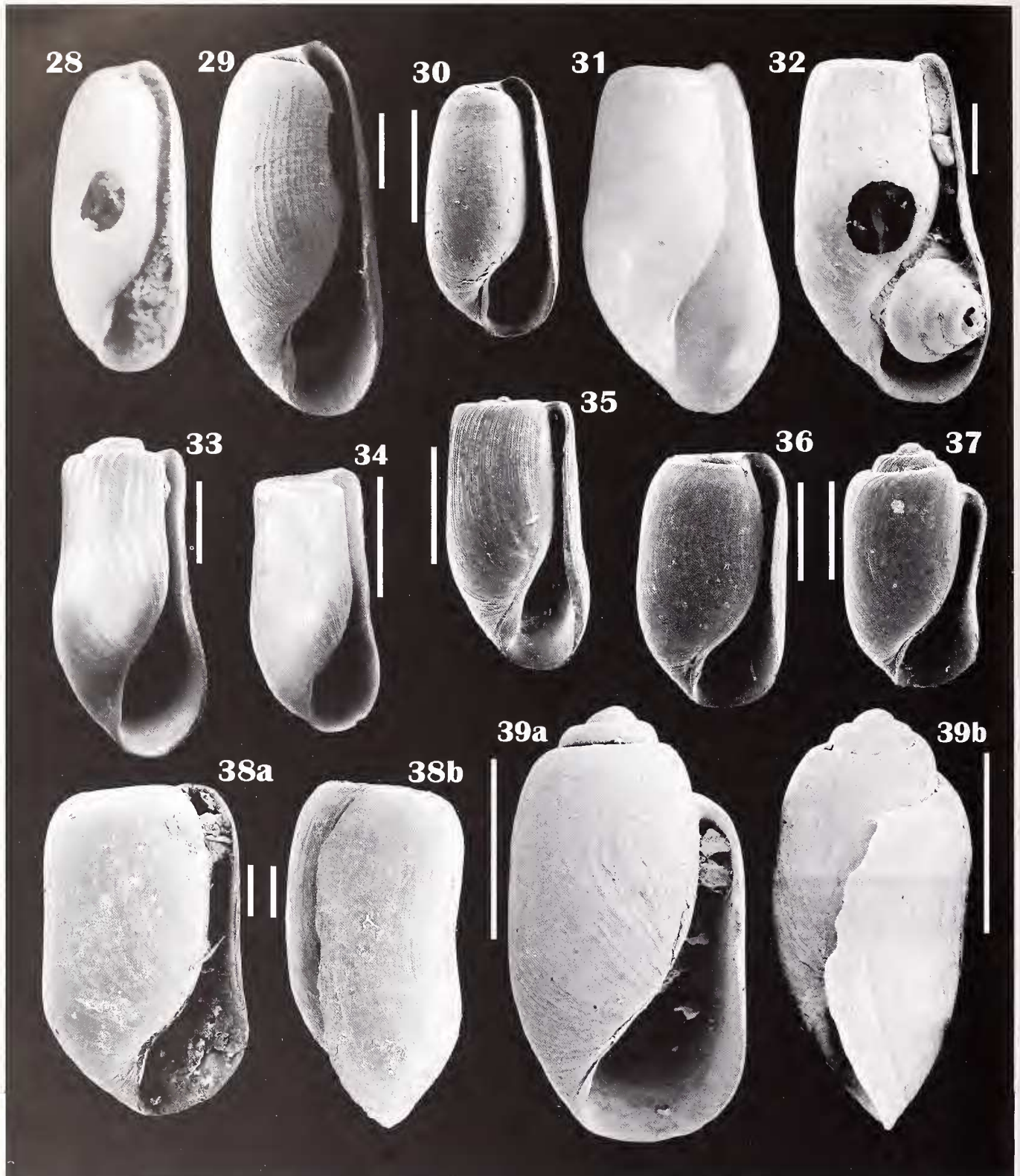
Familia RINGICULIDAE Philippi, 1853

conformis, *Ringicula* Monterosato, 1877

First valid introduction - MONTEROSATO (1877: 44 \314\; pl. II \321\, figs. 4) by means of a description and two figures.

Type material - 5 shs., Algiers (Algeria), unrecorded depth, (P. Joly legit), (original label: «Algiers (Joly) forma 1^a») (Figs. 12a-b, 14, 20, 24); 2 shs., Algiers, labelled as «Algiers (Joly) forma 2^a», (P. Joly legit) (Figs. 15, 21, 25); 7 shs. and several fragments, Palermo [labelled as «*R. conformis* v. *eburnea* M. Palermo!»] - all type material from the box 16280, which bears on the bottom the label: «*R. conformis* typ. foss. Ficarazzi Palermo S. Vito et var. *eburnea* et *senicostata* Malaga (Prieto) Provenza (Sollier) Sardegna Cagliari (Fr [illegible]) Tiberi Madera (Watson come *R.* _) Corfu (Chaster) Algeria, Toscana».

Remarks - The material at the base of the work in which *Ringicula conformis* was described, was collected by Joly in the harbour of Algiers (MONTEROSATO, 1877: 25 \295\). However, describing the species, MONTEROSATO (1877: 44 \314\) remarked that it was obtained from several localities in the Mediterranean, inhabiting also the Atlantic waters. We consider likely that Monterosato had already found material of *R. conformis* from Palermo - his main area of research - when he quoted *R. conformis* as variety of *Ringicula auriculata* (Menàrd de la Groye, 1811) two years before (MONTEROSATO, 1875: 45 \271\), so that the sample from Palermo is here regarded as type material. We consider that many shells labelled as *R. conformis* in the boxes 16280 and 16296 cannot be pointed out as syntypes - box 16280: 1 shell, harbour of Cagliari (Sardinia), with a label not by hand of Monterosato; 2 shells, coral-ligenous bottom, likely from Palermo, with a label not by Monterosato; box 16296: 12 Fossil shells, Monreale (Palermo); 3 Recent shells, with a label problematic to read and not in Monterosato's handwriting; 2 shells, Capri Is., (*leg.*: Chaster, 1896); 2 Fossil shells, Ficarazzi (Sicily) labelled as var. "*pusilla*" Brugnone (a manuscript name), by Brugnone himself; 4 juv. shells, Ficarazzi, from Brugnone coll.; 6 Fossil shells, Mt. Pellegrino (Palermo), labelled by Monterosato; a tube with 7 Fossil shells labelled «*R. conformis* tipo di Ficarazzi fossile» ("*R. conformis* Fossil type from Ficarazzi"); 109 Fossil shells (2 shells are *R. leptocbeila*-group), Ficarazzi, labelled by Brugnone; 2 Fossil shells, labelled «[illegi-



Figs. 27-28: "*Cylichnina*" *crebrisculpta*, syntypes, Palermo (Fig. 28, h: 2.4 mm). Fig. 30: *Retusa strigella* (Lovén), Lilleskär, Koster area, (Western Sweden), mud 30 m. Figs. 31-34: *Retusa truncatula* (Bruguière) [s.l.] - Fig. 31-32: syntypes of *Coleophysis effusa*, Palermo (h.: 2.7 mm) (note the shell of *Limacina retroversa* inside the aperture, on Fig. 32); Fig. 33: form with protruding spire, Djerba Is. (Tunisia), unrecorded depth (LPT coll.); Fig. 34: Stn. AKD.92-No. 22, Kash (Turkey), bioclastic sand sample 34 m. Fig. 35: *Retusa leptoneilema* (Brusina), Umag, Dalmazia (Croatia), beached (D. Di Massa legit, LPT coll.). Figs. 36-38: *Retusa minutissima* - Figs. 36-37: shells with sunken or protruding spire, Valencia (Southeast Spain), unrecorded depth (Monterosato coll.); Figs. 38a-b: syntype of *Utriculus minutissimus*, Gulf of Fos (South France) (H. Martin legit). Figs. 39a-b: *Retusa obtusa* (Montagu), the form probably corresponding to *Bulla pertenuis* Mighels, 1843, Killala Bay (Donegal Bay, Northwest Eire), beached (R. Vallasciani legit, LPT coll.). Scale bars: 1.0 mm (30, 33, 34, 35, 39a-b), 500 μ m (29, 32, 36, 37), 200 μ m (38a-b).



ble] Corsari» [probably *Acis Corsari* (Sicily)]; 7 shells, labelled «Jean e Luz» (= St. Jean de Luz). A further box (16202) contains material from Algiers (*P. Joly legit*) and Palermo, labelled by Monterosato as *Ringiculella* species similar to *R. conformis*. The latter is a variable species, and the mentioned material turns out to be *Ringicula conformis* indeed, a form with more evident spiral lines, particularly on the spire. Taking note of the label, however, the shells in the box 16202 are not regarded as type material.

Monterosato obtained from Joly also Algerian material of *Ringicula auriculata* (cf. MONTEROSATO, 1877), still kept in the Monterosato collection, box 16307 or 16308 – there are two numbers in the box – (Figs. 16a-b, 23, 26). Compared with *R. conformis* from the same locality it is evident that they are two distinct species. Along with the differential traits already remarked in literature (CICCONE & SAVONA, 1982: 26) – the second parietal tooth on *R. conformis* (Figs. 12b, 13), lacking on *R. auriculata* (Fig. 16a), and its less marked, more randomly set spiral lines – it is to notice the different apical morphology. The protoconch of *R. conformis* (Figs. 20-22, 24, 25), suggesting a planktotrophic larval development, shows a nucleus with a smaller diameter, less swollen and protruding in lateral view than on *R. auriculata* (Figs. 23, 26), which is possibly non-planktotrophic. Monterosato distinguished in schedis two forms from Algiers, as form 1 and form 2, the latter being slightly more swollen and thin. However it is compelling to judge both forms as one single variable species.

Familia DIAPHANIDAE Odhner, 1914

quadrata, *Amphispyra* Monterosato, 1874

First valid introduction - MONTEROSATO (1874: 280 \206) by means of a description.

Type material - Eleven shs., more or less damaged, from Palermo or Cape San Vito (West Sicily), unrecorded depth – the original sample was mixed in a single tube (original label: «*Amphispyra quadrata*, Monts., Pal. e S.Vito»)- from box 16129; 1 sh. and 1 frg. from Cape San Vito, from a box with no number. (Figs. 17, 18a-b, 19a-c)

Remarks - MONTEROSATO (1874) quoted a single specimen from Cape San Vito, and an unspecified number of specimens from Palermo. However, the material being mixed in the tube from box 16129, it is impossible to decide which are the shells from San Vito and which are from Palermo, though, taking account of Monterosato's words, it is likely that he had more shells from Palermo. Anyway Palermo and Cape San Vito are quite close localities on the Sicilian Northwest coast, so that it is trivial whether the material comes from one or the other. On a label placed on the bottom of box 16129 Monterosato wrote: «[...] Anche di Taranto». However no tubes with material labelled as coming from Taranto (Southeast Italy) are in the Monterosato coll.

The type material of *Amphispyra quadrata* seems to confirm LEMCHE's (1948: 40) view about the synonymy of Monterosato's taxon with the North Atlantic *Colpodaspis pusilla* M. Sars, 1870. The comparison of the type material and 2 shells from the Koster

Area (West Sweden, Figs. 27a-b) strongly support the synonymy. However the neotype of *C. pusilla* (NHML), instituted by BROWN (1979: 216) on a British specimen, was not examined by the writers. We found that the figures and descriptions of British shells identified as *C. pusilla* by GARSTANG (1894: pl. XLIV, figs. 4a-b), and by BROWN (1979: 207; 205, fig. 1c) may leave in doubt about their identity, if compared with the mentioned Scandinavian shells (also T. Schiøtte, personal communication).

CECALUPO & GIUSTI (1989: 99; 102, fig. 5) already recorded *C. pusilla* for the Mediterranean, and Mediterranean material of *C. pusilla* is kept in the SMNH, Stockholm, and MNHN, Paris (SCHIÖTTE, 1998: 130). *C. pusilla* is not rare in the Tyrrhenian Sea: we have examined some shells from the Strait of Bonifacio (between Corsica and Sardinia), the Tuscan Archipelago, and off Civitavecchia (Lazio, West Italy) (I. Nofroni coll.; LPT coll.). «*Diaphana quadrata* (Monterosato, 1874)» sensu NORDSIECK (1972: 25; 235, fig. 4) seems not to be this species, but probably a small member of the genus *Diaphana* T. Brown, 1827, similar to *Diaphana cretica* (Forbes, 1844) (SCHIÖTTE, 1998: 125-126; 123, figs. 24D, E, I, J), possibly being a dwarf form of the latter with a small protoconch, or a still undescribed species (in study by LPT: cf. OLIVERIO, 2000: 47, fig. 12).

Familia RETUSIDAE Thiele, 1931

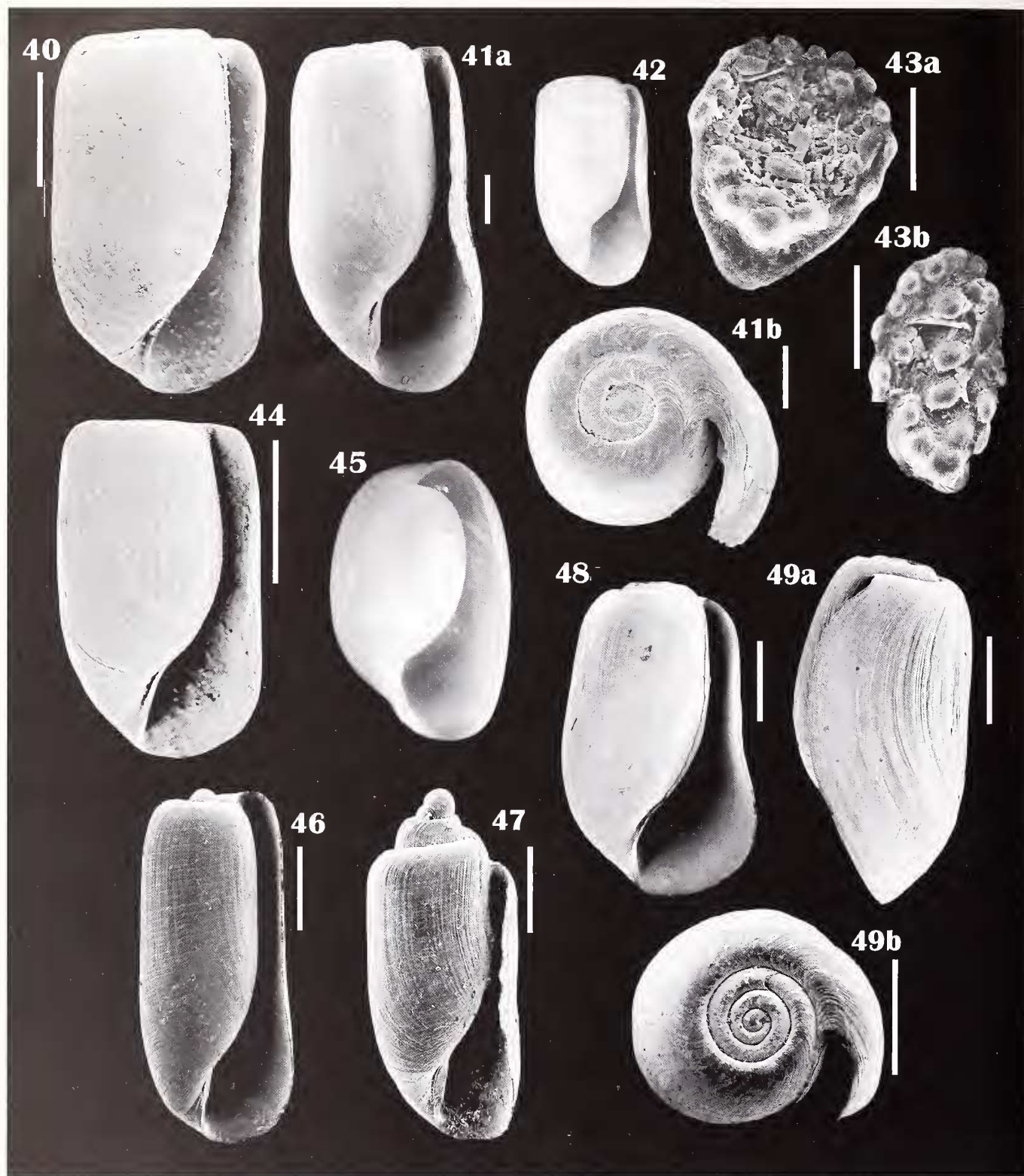
crebrisculpta, *Cylichnina* Monterosato, 1884

First valid introduction - MONTEROSATO (1884: 143 \799) by means of a description.

Type material - Two shs from Palermo (Sicily), unrecorded depth (Figs. 28, 29, 50). The original label and box were lost, arguably during the Exhibit in 1976, (the box's number should be 16017). A manuscript note on a copy of the catalogue of the Exhibit and a label both by hand of a Curator of the Exhibit (apparently G. Schirò) identify them as being *Cylichnina crebrisculpta*, collected at Palermo, from the Monterosato coll., box 16017.

Remarks - The material of *Cylichnina crebrisculpta* now kept in the Monterosato's collection includes only the mentioned shells, used for the Exhibit in 1976. The original label has not been found, being probably lost during the preparation of the Exhibit. However these shells should come from the Monterosato coll. (box 16017) having as locality Palermo, according to the mentioned notes. Both syntypes are damaged and not very fresh. One shows a bore hole, whereas the other is slightly broken on the parietal side of the aperture. Both shells match well enough the original description, as well as the illustrations given by a well-known correspondent of the Marquis (DAUTZENBERG, 1891: pl. XVI, figs. 1-2). Of the material from Cape San Vito and Naples, mentioned by MONTEROSATO (1884) after Palermo, there is no trace.

The actual distinction of the Eastern Atlantic-Mediterranean *Retusa* species with sunken spire, apical umbilicus, and spiral lines, is problematic. These are frequently ascribed to the (sub)genus *Cylichnina* Monterosato, 1884, which the writers simply consider a synonym of *Retusa* T. Brown, 1827, and include the following



Figs. 40-44: *Retusa minutissima* - Fig. 40: Paleohora (Crete Is.), bioclastic sand sample 10 m (S. Farinelli legit, LPT coll.); Figs. 41-42: syntypes of *Utriculus minutissimus*, Algiers, 15 m (P. Joly legit) (Fig. 42, h.: 1.4 mm); Fig. 43a-b: gizzard plates (Fig. 43a: unpaired pl.; Fig. 43b: paired pl.), Valencia (Southeast Spain) (Monterosato coll.); Fig. 44: Cala Iris (Torres de Alcalá, Mediterranean Morocco), bioclastic sand sample 10 m (R. Villa legit, LPT coll.). Fig. 45: *Haminoca hydatis* (Linné), holotype of *Haminoca hydatis* var. *cymoelium*, Bengasi (h: 10.5 mm). Figs. 46-47: *Retusa mamillata* (Philippi), shells with nearly sunken or protruding spire, Stn. AKD.92-No. 22, Kash (Turkey), bioclastic sand sample 34 m (AKDENIZ exp., 1992, Univ. "La Sapienza", Rome). Figs. 48-49a-b: *Retusa obtusa*, Le Verdon-sur-Mer (Aquitanie, Western France), typical form with flat spire (F. Settepassi coll., ZMR). Scale bars: 1.0 mm (48, 49ab), 500 μ m (40, 44, 46, 47); 200 μ m (41a-b); 50 μ m (43a-b).



nominal species: *Retusa strigella* (Lovén, 1846) (Fig. 30), *R. laevisculpta* (Granata-Grillo, 1877), *R. crebrisculpta* (Monterosato, 1884), *R. crossei* (B.D.D., 1886), *R. variabilis* Milaschewich, 1909, *R. ovoides* (Milaschewich, 1916), *R. multiquadrata* Oberling, 1970, and possibly *R. umbilicata* (Montagu, 1803). On this question the type material of *C. crebrisculpta* does not throw any new light.

Noteworthy, MONTEROSATO (1890: 189 \923\) changed his view later on, quoting *crebrisculpta* as a synonym of *Retusa strigella* (Lovén, 1846) [*Cylicbna*]. This fact is even more surprising since Monterosato was becoming more and more a splitter in that period. Anyway he was possibly right: it is difficult to find any feature really useful to distinguish the type material of *crebrisculpta* from the more slender shells of *Retusa strigella*, with the exception of a moderately stronger sculpture, more similar to *Retusa laevisculpta* (Granata-Grillo, 1877). The identification of *Bulla umbilicata* Montagu, 1803, with *strigella* is commonly stated in recent literature, yet not proved, possibly *umbilicata* corresponding to the non-striated *Retusa nitidula* (Lovén, 1846). For this reason, we prefer to adopt the name *strigella*.

effusa, *Coleophysis* Monterosato, 1890

First valid introduction - MONTEROSATO (1890: 188-189 \922-923\) by means of a description.

Type material - Five shs. (Figs. 31, 32, 52), badly preserved, from Palermo (Sicily), unrecorded depth, certainly from deep water (original label: «n. sp.? Palermo 1886»), from the box 16030.

Remarks - MONTEROSATO (1890: 188 \922\) introduced the species in a work on the deep water molluscs of Palermo, yet quoted also a lot from Villefranche (South France), sent by S. Hanley. Actually, there is no material labelled as *Coleophysis effusa* in the Monterosato coll. Therefore we have been compelled to check all the lots of small opisthobranchs trying to find what could reasonably be regarded as type material of *C. effusa*. We found in the box 16030, mostly containing lots labelled as *Retusa truncatula* (Bruguère, 1792) and *R. semisulcata* (Philippi, 1836), a tube with *R. truncatula*-like shells, arguably from deep water - a shell still holds a *Limacina retroversa* (Fleming, 1823) stuck in the aperture - labelled as «n. sp.? Palermo 1886» by hand of Monterosato. The dating 1886 shows that it was collected after MONTEROSATO (1884), where *C. effusa* was not mentioned, and before the description in 1890. The origin fits *C. effusa*. Moreover the material corresponds well enough to the original description - very concise indeed - of *C. effusa*, and Monterosato was inclined to consider these shells as belonging to a new species, as shown by the label. These considerations allow to conclude that the description of *C. effusa* was based on this material - at least in part. The lectotype shows a somewhat damaged peristome, however it is better preserved than the other material. A further tube in the box 16030, containing a shell from Villefranche, does not match the remark by MONTEROSATO (1890) because it was collected by J.T. Marshall, not by Hanley. It is likely that the material of Monterosato, despite being collected in moderately deep water, came from shallow bottoms - other species listed by MONTEROSATO (1890) are in

fact shallow water ones. The record of *C. effusa* by LOCARD (1905: 58) was based on shallow water material (10-90 m).

Based on this material, *Coleophysis effusa* seems, at least from shell morphology, a weakly sculptured form of the variable *Retusa truncatula* (cf. Figs. 33, 34, 58) with a small size, possibly close to the form "pellucida" T. Brown, 1827. It is hard to say whether *effusa* could represent merely a form, or a distinct species within the probable complex of *Retusa truncatula*, all this group being poorly known.

minutissimus, *Utriculus* Monterosato, 1878, ex H. Martin MS.

First valid introduction - MONTEROSATO (1878b: 159 \449\) by means of a description.

Type material - Eleven spms./shs. (Figs. 41a-b, 42) from Algiers (Algeria) 15 m, from box no.16015 (P. Joly legit; original label: «*Utriculus minutissimus* Martin Algiers 15 m.» by hand of Joly); 146 spms./shs. from Algiers (Algeria), unrecorded depth, (P. Joly legit); 27 spms. (Figs. 38a-b, H. Martin legit); Gulf of Fos (Southern France), unrecorded depth, 7 shs. (G. Doria legit), Vado, near Genova (Liguria, Northwestern Italy), unrecorded depth.; 1 sh. (Caifassi brothers legit), Livorno (Tuscany, Western Italy), depth unrecorded on the label - yet about this lot, MONTEROSATO (1878b: 159 \449\) wrote: «profondeur de 30 mètres, par un fond de vase fine et jaunâtre»). All the examined syntypes are kept in the box 16015.

Remarks - Before the original description Monterosato had quoted the species as *Utriculus obtusus* var. *minor*, *Cylicbna minutissima* H. Martin MS., *Utriculus minutissimus* H. Martin MS., and *Utriculus obtusus* var. *minor*, *apice depresso* Jeffreys, all nomina nuda (MONTEROSATO, 1872: 54 \136; 1875: 46 \272; 1878a: 110 \424). Although the description is included in a work on the marine molluscs of Palermo, no material labelled as from Palermo was found by the writers. We have regarded as syntypes all the material from localities and/or senders quoted just below the original description, or in previous works - Gulf of Fos, Vado, Livorno, harbour of Algiers. On the bottom of the box 16015 it was found a label by hand of Monterosato: «*Utriculus minutissimus*, H. Martin MS. = *U. obtusus*, var. *minor*, *apice depresso*, Jeffr. varie località!», now kept with the types. A young shell of *Retusa truncatula* (Bruguère, 1792) is mixed within the syntypes from Algiers, unrecorded depth.

There are further lots in the Monterosato coll., apparently obtained after the original description - some of these localities are quoted in MONTEROSATO (1884: 142 \798). Therefore we do not regard them as type material. They are: from box 16015: 168 spms./shs., Valencia (Southeast Spain), unrecorded depth; 67 shells, Cagliari (South Sardinia), unrecorded depth.; (h) 14 shells, Smirne [= Izmir] (West Turkey), unrecorded depth (Terquem legit); from box 16019: 5 shells Algiers (in a tube the sender is specified: «Joly»), unrecorded depth, (labelled by Brugnone); 1 fossil shell, Ficarazzi (Palermo, Sicily), probably from Pleistocene deposits (labelled by Brugnone). There is also a tube from Cape San Vito (West Sicily) erroneously identified - two small *Cylicbna*-like shells. On the bottom of the box there is a label on which some locality is pointed out:

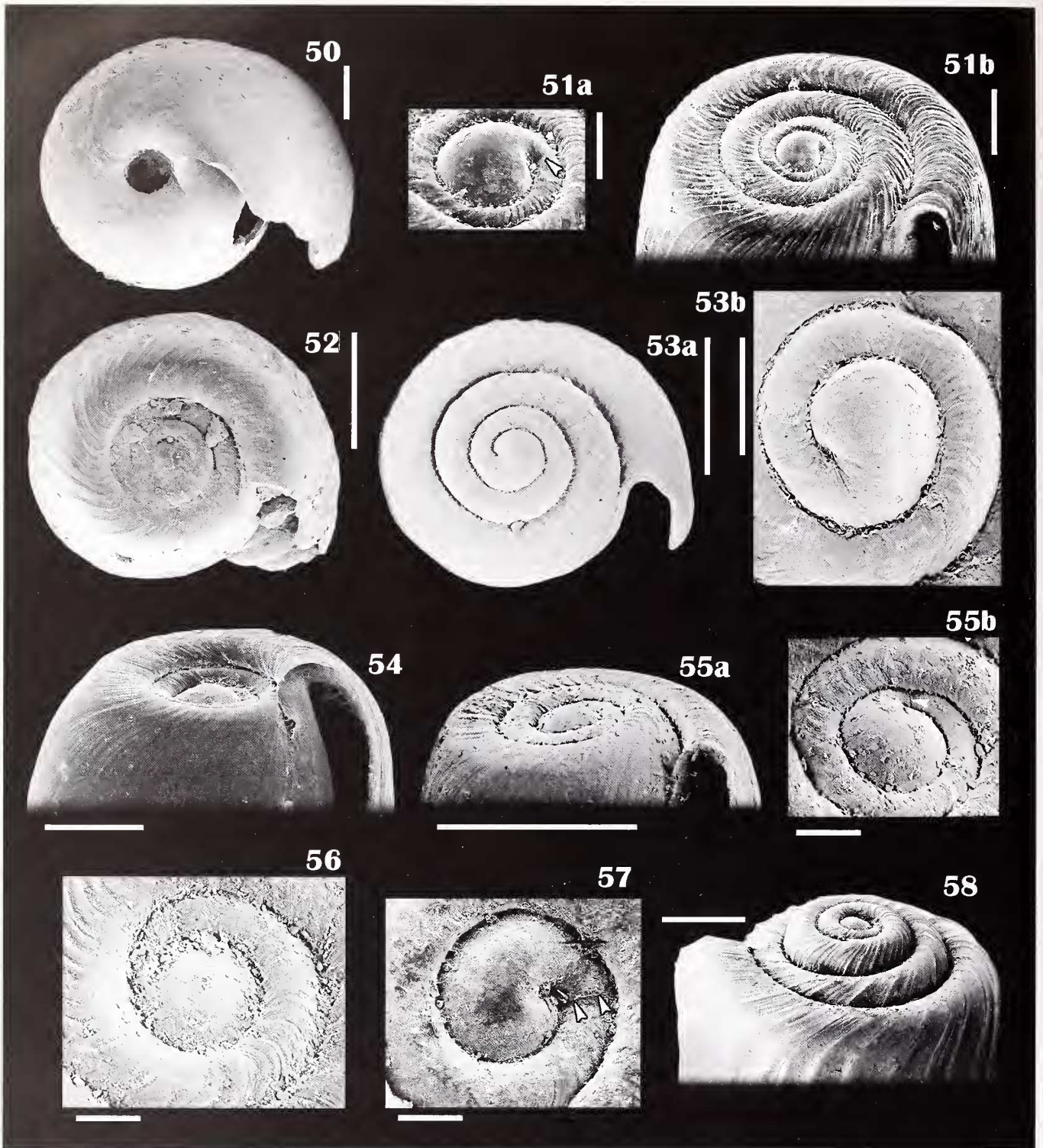


Fig. 50: "*Cylichnina crebrisculpta*", syntype, Palermo, upper view. Figs. 51a-b: *Retusa leptocentema* (Brusina), Umag, Dalmazia, beached, protoconch and shell top. Fig. 52: *Retusa truncatula* (Bruguière) [s.l.], syntype of *Coleophysis effusa*, Palermo, upper view. Figs. 53a-b: *Retusa obtusa* (Montagu) [s.l.], form apparently corresponding to *Bulla pertinens* Mighels, Killala Bay (Donegal Bay, Northwest Eire), beached, upper view and protoconch. Figs. 54-56: *Retusa minutissima* - Fig. 54: Valencia (Southeast Spain), shell top with sunken spire; Figs. 55a-b: Paleohora (Crete Is.), shell top and protoconch; Fig. 56: Cala Iris (Torres de Alcalá, Mediterranean Morocco), protoconch. Fig. 57: *Retusa obtusa* [s.l.], Le Verdon-sur-Mer (Aquitanie, West France), typical form with flat spire, protoconch. Fig. 58: *Retusa truncatula*, f. with protruding spire, Djerba Is. (Tunisia), shell top. Scale bars: 500 μ m (52, 53a, 55a, 58); 200 μ m (50, 51b, 53b, 54); 100 μ m (51a, 55b, 56, 57). - (Arrows on Figs. 51a, and 57 point to the protoconch–teleoconch boundary).



«Trap. [“Trapani”], Viareggio, Alger, S. Vito». The shells from Algiers could be from the same sample of the syntypes (Algiers), sent to Brugnone by Monterosato, and later on returned to Monterosato along with the rest of the Brugnone coll., but there is no clear evidence of this and, therefore, they are not regarded as type material here. Finally in the box 16014 we found: a tube with 9 poorly preserved shells from Trieste (Northeast Italy, Adriatic Sea), 10 fms (= 18.5 m ca.) labelled by an unidentified hand.

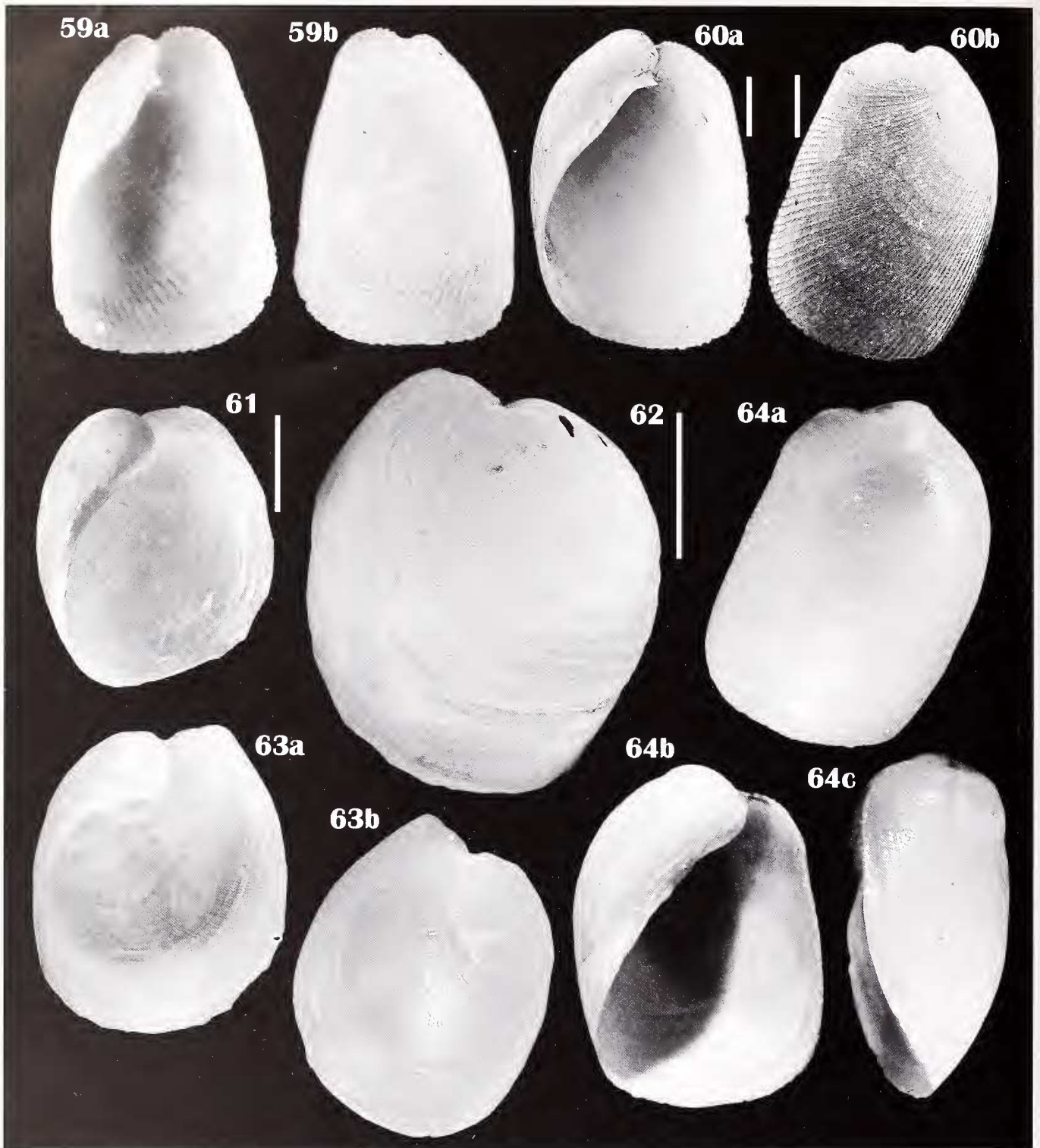
This species is widespread in the whole Mediterranean Sea, and it may be locally common. In the past *Utriculus minutissimus* was recorded for several Mediterranean localities (see, e.g.: LOCARD, 1892: 29; LOCARD & CAZIOT, 1900: 26; COEN & VATOVA, 1932: 26; VAN AARTSEN *et al.*, 1989: 68; BOGI & GALIL, 1997: 43). We have also examined further material 4 shs, Cala Iris (Torres de Alcalá, Mediterranean Morocco), sediment 2-10 m (Figs. 44, 56); 2 dry spms, Valencia (Southeast Spain). (Figs. 36, 37, 43a-b, P. Pallary legit), F. Settepassi coll. (ZMR); 3 shells, Paleohora (Crete), sediment 10 m (S. Farinelli legit; Figs. 40, 55a-b); 3 shells, Datcha (Southwestern Turkey), unrecorded depth (R. Villa legit; E. Talenti legit) The species was also recorded for the Atlantic waters, near the Strait of Gibraltar by PALLARY (1902: 6; 1920: 20). It seems to inhabit detritic-muddy bottoms on the continental shelf. As previously noticed it is known also as fossil from Sicily.

NORDSIECK (1972: 36), as well as all the recent check-lists of Mediterranean marine molluscs (PIANI, 1980: 159; BRUSCHI *et al.*, 1985: 33; SABELLI *et al.*, 1990-92: 53, 424; see also BEDULLI *et al.*, 1995: 6) adopted the genus *Pyrumculus* Pilsbry, 1895, for *Utriculus minutissimus*. On the other hand, PALLARY (1902: 6; 1920: 20), COEN & VATOVA (1932: 26), SETTEPASSI *et al.* (1976: 26), VAN AARTSEN *et al.* (1989: 68), GAGLINI (1991: 6), TRINGALI (1993: 26), and BOGI & GALIL (1997: 43) regarded this species as a member of the genus *Retusa* T. Brown, 1827, a position which we share. The shells of *Pyrumculus* are characterised by a more or less pyriform outline (PILSBRY, 1895a: 229; THIELE, 1931: 389; BOUCHET, 1975: 333), whereas *Utriculus minutissimus* has an evenly cylindrical shell, similar to those of many other *Retusa* species. MONTEROSATO (1878b: 159-160) described this species in the genus *Utriculus* T. Brown, 1844 - a synonym of *Retusa* - comparing it with *Retusa leptoneilema* (Brusina, 1866), a closely similar species with a rather cylindrical shell too. The gizzard plate morphology confirms this systematic position showing typical *Retusa* characters: they are small, corneous, subtriangular in shape, slightly curved, with many small tubercles spread on the surface, darker in colour than the light brown background (Figs. 43a-b) (cf. TRINGALI & OLIVERIO, 2001, this volume). «*Pyrumculus minutissimus* ([H. Martin] Monterosato, 1878)» *sensu* NORDSIECK (1972: 36; 237, fig. 15) may be a true *Pyrumculus*, yet it does not share *Utriculus minutissimus*' shell morphology.

Utriculus minutissimus has been occasionally regarded as a distinct species - see, e.g., the previously quoted references, as well as CARUS (1893: 184) and LOCARD (1905: 60). Frequently, it has been considered as a dwarf form of the Atlantic *Retusa obtusa* (Montagu, 1803), especially by Northern authors. This view probably spread under the eminent influence of JEFFREYS (1870: 20), who pointed out the occurrence of a variety *minor*, *apice depresso* of *Utriculus obtusus* (Montagu, 1803) in the Mediterranean Sea. MONTEROSATO (1878b) underlined that this form is the same of *Utriculus minutissimus*. *Retusa*

minutissima has a cylindrical shell very similar to *R. obtusa* (Figs. 39a-b, 48, 49a-b, 53a-b, 57), having only a weak sculpture of growth lines - rarely developing in exceedingly weak ribs on the upper part of some shells - and an usually flattened spire. In fact, the spire of both species shows a wide range of protrusion-immersion degree, from shells with well prominent, *Actaeocina*-like whorls, to others with a nearly concealed, *Cylichnina*-like spire (cf. Figs. 36, and 37). Although *R. obtusa* is similar to *R. minutissima*, it may be distinguished by a set of characters. The teleoconch of *R. obtusa* is larger, shells with a height of 5-6 mm being not rare, whereas *R. minutissima* is very tiny, with a height of about 1.0-1.2 mm, only occasionally attaining to 1.5 mm. Its outline is less cylindrical than *R. minutissima*, slightly more rounded, more or less swollen toward the base, especially if large shells are taken in account. Its suture is deeper. The growth lines seem slightly more rounded, as is the peristome observed in lateral view. The columellar callus of both species is thin, yet proportionally more in *R. obtusa* and is more evenly curved. The part of the protoconch of *R. obtusa* not concealed by the first teleoconch whorl is usually more prominent from the spire, and its diameter (about 0.20-0.23 mm) is larger than that of *R. minutissima* (0.15-0.17 mm) (cf. Figs. 53b, 57, and 55b, 56). In fact, the protoconch of *R. obtusa* is larger than that of any Mediterranean *Retusa* species we know. A large larval shell is not surprising since *R. obtusa* is known to lack a planktotrophic larval phase (SMITH, 1967: 760-762). According to JEFFREYS (1867: 423), fresh shells of juvenile *R. obtusa* are sculptured by microscopic spiral lines. We were unable to notice this feature on the juvenile shells of *R. obtusa* available to us from the Northwest Atlantic (Bay of Biscay, Northwest Ireland, and West Sweden), perhaps not fresh enough to preserve the weak sculpture. Fine and close-set spiral lines are present on the shells of *R. obtusa* s.l. in a lot from the Behring Sea (LPT coll.). These shells are probably adult, and perhaps correspond to “*Bulla*” *semen* Reeve, 1855: the problematic identity and relationship of this taxon with *R. obtusa* were discussed by LEMCHE (1948: 53-54). The spiral sculpture was quoted also by PRUVOT-FOL (1954: 86), NORDSIECK (1972: 33), and REHDER (1988: 644): it is likely, however, that they simply quoted the remark by JEFFREYS (1867). Anyway, *R. minutissima* lacks any kind of spiral sculpture. Although LEMCHE (1948: 51-53; 84-86) and others listed several names as synonyms of *R. obtusa*, it is very likely that *R. obtusa* is in fact a complex of species. This species lacks a planktotrophic larval stage, and therefore its allegedly very wide distribution, ranging from the Northeastern Pacific, and the Eastern coast of North America to the Eastern Atlantic Ocean, and the Mediterranean Sea, is possibly questionable. *Retusa minutissima* may be regarded as a species of this group not difficult to distinguish even basing the shell morphology alone.

A further closely similar species is *Retusa leptoneilema* (Brusina, 1866), known with certainty from the Central and Eastern Mediterranean basins (Figs. 34, 48a-b). This species shares with *R. minutissima* a rather flat spire, an evenly cylindrical shape, and the absence of any spiral sculpture. Moreover, the exposed part of the protoconch of *R. leptoneilema* seems identical to that of *R. minutissima*. It is not always easy to distinguish shells of these species, however *R. leptoneilema* has a thicker and larger teleoconch, usually attaining 1.5-3 mm of h, and usually bearing a more evident axial sculpture - weak and sharp axial ribs vanishing toward the base. Shells of *R. leptoneile-*



Figs. 59-60: *Philine intricata*, syntypes, Palermo (Figs. 59a-b, h: 3.5 mm). Figs. 61-63: *Philine monterosati*, Fig. 61: Termini Imerese (Sicily), unrecorded depth (Monterosato coll.); Fig. 62: syntype, Palermo; Figs. 63a-b: Vibo Marina, muddy bottom, 400 m ca. (h.: 7.2 mm; from a preserved animal with a length: 13 mm. ca.) (R. Ardovini legit, LPT coll.). Figs. 64a-c: *Philine quadrata* (S.V. Woods), Kristiansand (Norway), unrecorded depth (h: 5.6 mm) (Monterosato coll.). Scale bars: 2.0 mm (61, 62); 500 μ m (60a-b).

ma with a very weak axial sculpture, similar to *R. minutissima*, may occasionally be found, but usually are worn shells, probably smoothed by rolling within the sediment. Moreover *R. leptoenilema* shows a thicker columellar callus, usually with a blunt nodular fold,

evident also on juveniles. Its suture is more deeply incised, and its basal umbilical chink is slightly larger. The spire of *R. leptoenilema* is less variable than *R. minutissima*, not displaying a wide range of protrusion-immersion degree, being almost always evenly flattened.



VAN AARTSEN & KINZELBACH (1990: 110) considered *R. minutissima* a small form of *Retusa truncatula* (Bruguère, 1792). Yet it seems that there are no intermediate forms between *R. minutissima* and *R. truncatula* (Fig. 33). On some shells of *R. truncatula* the upper part of the body whorl is slightly lower than the spire. Therefore the spire of this form, though more or less flattened, is slightly protruding above the body whorl. Specimens of this form are not rare at Djerba Is. (Tunisia), where the species attains a somewhat large size (h: 3-5 mm) (Fig. 32), and may be occasionally found in other areas. However all the other features allow to discriminate these form of *R. truncatula* from both *R. minutissima* and *R. leptoneilema*. *Retusa mamillata* (Philippi, 1836) has a characteristic shell, with a very variable spire (Figs. 44, 45), and evident spiral lines on the teleoconch: it cannot be misidentified with *R. minutissima*. Noteworthy, *R. mamillata* is a full valid species, not a form of *R. truncatula*, although some authors (e.g. LEMCHE, 1948: 55) considered it as a synonym of the latter.

Familia HAMINOEIDAE Pilsbry, 1895

cymelium, *Haminoea bydatis* var. Monterosato, 1923

First valid introduction - MONTEROSATO (1923: unnumbered pl. \1317, fig. 16) by means of a named figure (an indication).

Type material – The holotype (Fig. 45) is a sh. glued on a stick of paper, from Bengasi (Lybia), (C. Crema legit), unrecorded depth (arguably beached: cf. MONTEROSATO, 1923: 3 \1308) labelled by hand of Monterosato as: «*cymelium* typ. Monts. Bengasi!! Fig.16», box 16253.

Remarks - NORDSIECK (1972: 32) raised this variety to the rank of subspecies, thus making the name available (ICZN 1999: Art. 45.6.3, 45.6.4, and Art. 45.6.4.1). The shell is clearly the same photographed by MONTEROSATO (1923). The type locality is obviously Bengasi (Lybia). Despite that recent works on Northeast Atlantic-Mediterranean *Haminoea* species show how scanty is the significance of shell morphology in specific systematics of this group, we notice that the holotype of *Haminoea cymelium* seems to be a faded, worn shell of *Haminoea bydatis* (Linné, 1758).

Familia PHILINIDAE J.E Gray, 1850

intricata, *Philine* Monterosato, 1884

First valid introduction - MONTEROSATO (1884: 147 \803) by means of a description (see below).

Type material - 28 shs., plus some frgs., Palermo, from the box 16301 (original label: «*Philine intricata*, Monts. Palermo!») (Figs. 59a-b, 60a-b). Gagliani did not select a lectotype (see GAGLINI, 1991: 12; 20, unnumbered figs.), yet she gave the syntype of Figs. 59a-b a separate place in the original tube, arguably regarding it as the better syntype for a future selection.

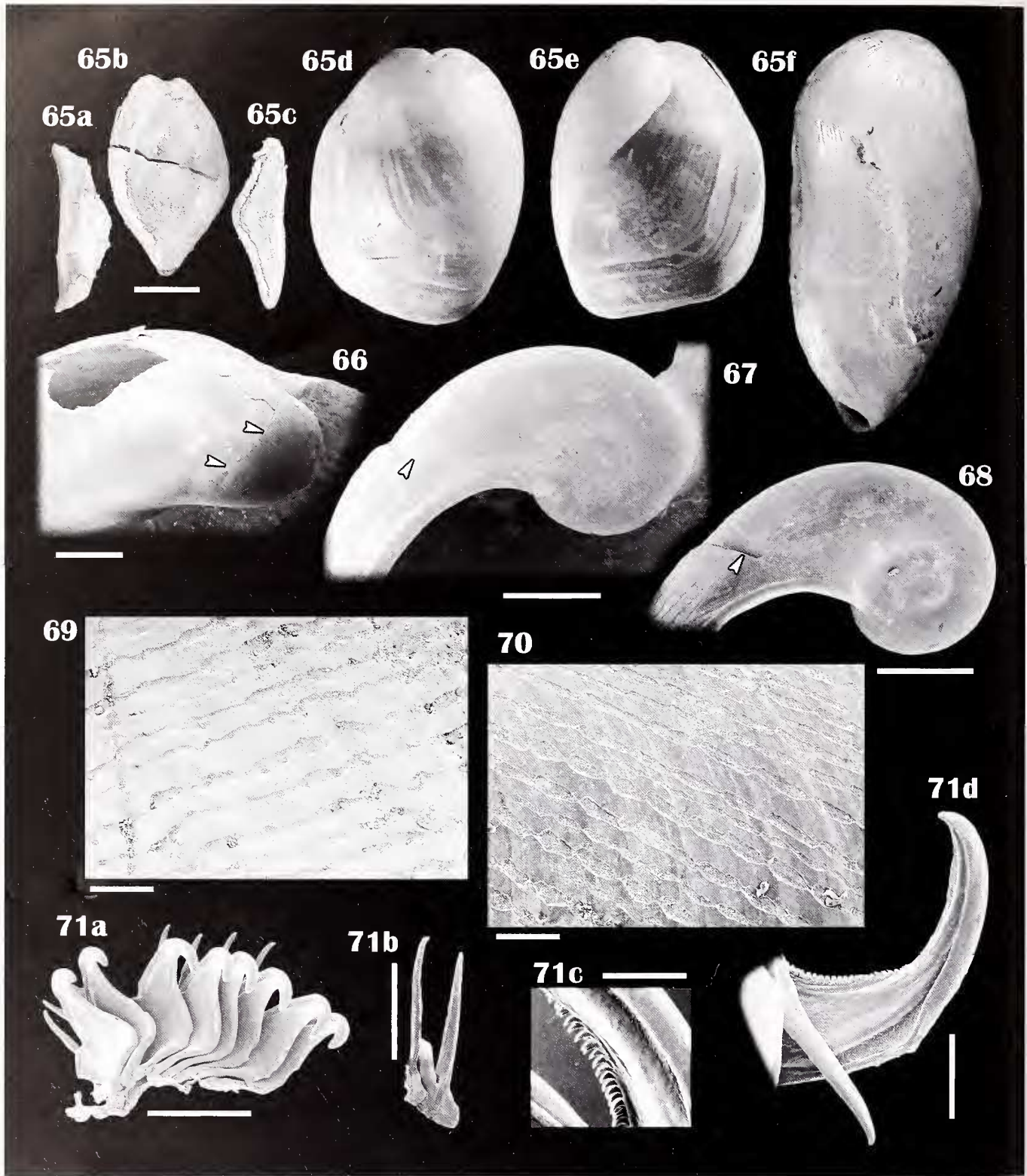
Remarks - MONTEROSATO (1884) first validly introduced this name, though without any reference to a locality. In some previous work *Philine intricata* is published as a nomen nudum accompanied

by some locality - MONTEROSATO. (1875: 47 \273): Palermo 60-90 m; MONTEROSATO. (1878a: 111 \425): from Palermo and Trapani 60-90 m; Messina (Granata-Grillo); Algiers (Joly); MONTEROSATO (1878c: 319 \459): Algiers. Only one of the quoted localities is now represented in the Monterosato coll., namely Palermo. The material from other localities examined by us evidently was included in the collection later, being not type material: 2 shells, large for the species and well-preserved, from St. Raphael Is., Azores Islands, 50 m; 1 shell, small and badly preserved from Naples; both lots in box 16301. In a monographic paper on *Philine intricata*, VAN DER LINDEN (1994) does not mention further type material from other public collections, which, however, may exist.

GIANNUZZI-SAVELLI & PIANI (1990: 173) considered invalid this taxon in Monterosato's works judging insufficient as a description MONTEROSATO's (1875) few words on this species - «*P. intricata*, Monterosato nov. sp. C. Palermo 60-90 m! Prossima ma distinta, secondo Jeffreys, alla *Philine lima*, (*Utriculus*) Brown = *Bulla lineolata*, Couthouy, ch'è artica», viz.: "*P. intricata*, Monterosato new species, coralligenous, Palermo 60-90 m, directly examined by Monterosato. In Jeffreys' opinion closely similar to the Arctic *Philine lima*, (*Utriculus*) Brown = *Bulla lineolata*, Couthouy, yet distinct". Actually, MONTEROSATO (1875) is not a description, but the simple reference to a resemblance with *Philine lima* (T. Brown, 1827), not itself a diagnostic character of the species. Despite MONTEROSATO (1875) was considered as the valid introduction of the name by others (SETTEPASSI *et al.*, 1976: 25; PIANI, 1980: 161; BRUSCHI *et al.*, 1985: 34; GIANNUZZI-SAVELLI, 1989: 1578; SABELLI *et al.*, 1990-1992: 54, 232, 426; GAGLINI, 1991), this view seems untenable.

However, as already noticed by VAN DER LINDEN (1994: 42), there is the description by MONTEROSATO (1884) to make available the name *Philine intricata*. This description is nearly telegraphic: it simply remarks that a new section of the genus *Philine* Ascanius, 1772, could be introduced for this species «che ha la columella sinuosa e canalicolata come nel genere *Raincourtia*, Fischer [...]", viz. "which has a sinuous and channelled columella as in the genus *Raincourtia*, Fischer [...]" (on *Raincourtia*, see FISCHER, 1884). Nevertheless, it describes a character of the species, thus it satisfies the ICZN (1999: Art. 12.1), making the name available. The most characteristic feature of the shell of *P. intricata* is actually that underlined by its original description, namely the flexuous columella, with an evident fold. Its outline is also more squared than the similar *Philine catena* (Montagu, 1803), it is flatter in lateral view, and its peristome more coarsely serrated.

This species was omitted in the comprehensive manuals by KOBELT (1895-1896), and by PILSBRY (1895b). More generally, it was overlooked by the malacological literature, until its recent rediscovery by GAGLINI (1991), who also figured a syntype of the Monterosato coll. (here Figs. 59a-b), and the careful description by VAN DER LINDEN (1994), who also provided further data on its distribution, and good SEM photos. Nothing is still recorded in literature about the soft parts and/or its ecology. Yet, it is noteworthy that «*Philine catena* (Montagu)» *sensu* VAYSSIÈRE (1885: 35-38; pl. 1, figs. 25-34) seems to be this species, at least in part, as it is shown by the folded columella of the figured shell: therefore the anatomical characters described there could be ascribed, at least in part, to *P. intricata*. If this is right the radular formula would be 1.1.0.1.1, and the



Figs. 65a-f: *Philine monterosati*, syntype, Palermo; Figs. 65a-c: gizzard plates; Figs. 65d-f: shell. Figs. 66-67: *Philine monterosati*, syntype, Palermo, protoconch, in lateral and lower view, respectively. Fig. 68: *Philine quadrata* (S.V. Wood), West Sahara, 24°-25° N lat., 40-60 m, gastric contents of flatfish (fam. Pleuronectidae), protoconch in lower view (F. Gubbioli legit, LPT coll.). Figs. 69-70: *Philine monterosati*, detail of sculpture on the central part of the body whorl - Fig. 69: syntype, Palermo; Fig. 70: subadult shell, Civitavecchia (West Italy), inside an old Roman amphora, 550 m ca.) (R. Ardovini legit, LPT coll.). Figs. 71a-d: *Philine monterosati*, details of the radula, Vibo Marina (same spm. as in Figs. 63a-b) - Fig. 71a: a portion of the radula; Fig. 71b: marginal teeth; Fig. 71c: detail of the denticulation on a lateral tooth; Fig. 71d: lateral and marginal teeth. Scale bars: 1.0 mm (65a-c); 200 μ m (66, 67, 68, 71a); 100 μ m (69, 70, 71b); 50 μ m (71d); 25 μ m (71c) - (Arrows on Figs. 66, 67, and 68 point to the protoconch-teleconch boundary).



species would show a gizzard with three plates, proportionally large, narrow and long, as that figured by the French author.

The species was recorded as a member of the Recent fauna of the Eastern Atlantic (Northwest Africa, Canary, Azores, Cape Verde Islands), and of the Western and Central Mediterranean, and, as a fossil, from the Pliocene of Belgium - see the above quoted works by MONTEROSATO, and VAYSSIÈRE (1885), VAN DER LINDEN (1994: 47-48; 1995), SYKES (1905: 324), and MORENO & TEMPLADO (1998). It seems quite clear that NORDSIECK & GARCÍA-TALAVERA (1979: pl. XLIII, fig. 16) published a drawing of *P. intricata* from the Canary Islands with the name «*Philine monterosatoi* (Vayssièrè, 1875)» - the authorship of *P. monterosati* has been a matter of discussion up to date (see below). Also the drawing of *P. monterosati* by NORDSIECK (1972: 233, fig. 13) seems in fact *P. intricata*. *Philine monterosati* and *P. intricata* are not very similar. The shell of *P. monterosati* is closer to *Philine quadrata* (S.V. Wood, 1839). It is far larger than *P. intricata*: the largest shells may attain a height of about 10 mm. Both its lateral and frontal outline are quite rounded and swollen; conversely *P. intricata* is somewhat squarish frontally, slightly restrained toward the top on the largest shells - with a height of about 3-4 mm - and it is very flat and subtriangular laterally. The evenly arched columella of *P. monterosati* lacks a fold, and its peristome is not serrated as *P. intricata*. The latter is usually found in shallow waters, whereas *P. monterosati* is a deeper water species. *Philine intricata* is frequently found along the Canarian coasts, possibly even more frequently than in the Mediterranean Sea (cf. VAN DER LINDEN, 1994; 1995).

monterosati, *Philine* Monterosato, 1874, ex Jeffreys MS.

First valid introduction - MONTEROSATO (1874: 281 \207) by means of a description.

Type material - One spm. from Palermo, now consisting of the sh. and the gizzard plates (Figs. 65a-f), unrecorded depth, from a box employed during the Palazzo Braschi Exhibit (1976), without number, yet with two original labels («*Philine monterosati* Jeffr. Palermo!!» and «*monterosati* Pal.!!»), and a note on the tube's cork («P. 1874», viz. "Palermo 1874"); 4 shs. mostly damaged + several fragments (Figs. 62, , 66, 67, 69) in a tube, Palermo, unrecorded depth (labelled «*monterosati* Pal.!!»), from the box 16303.

Remarks - MONTEROSATO (1872: 55 \137) quoted *monterosati* - as nomen nudum - from the Adventure Bank, 92 fms. (communicated by Jeffreys), and Palermo. In 1874 the species was described on the basis of a single spm. from Cape San Vito, and material from Palermo consisting of several empty shells and a few spms. Apart from the mentioned lots from Palermo, all other material held at present in the Monterosato coll. (box 16303) is not regarded as type material: there are 4 shells labelled by Brugnone from Cape San Vito and Palermo possibly sent by Monterosato, and 1 shell labelled by Monterosato from Termini Imerese (Northern Sicily). On the bottom of the box 16303 there are two labels, one by Brugnone [«*Philine monterosati* Jeffr. Pal. (Dr.)»], and the other by Monterosato [«*Philine monterosati* Jeffr. varie località!»].

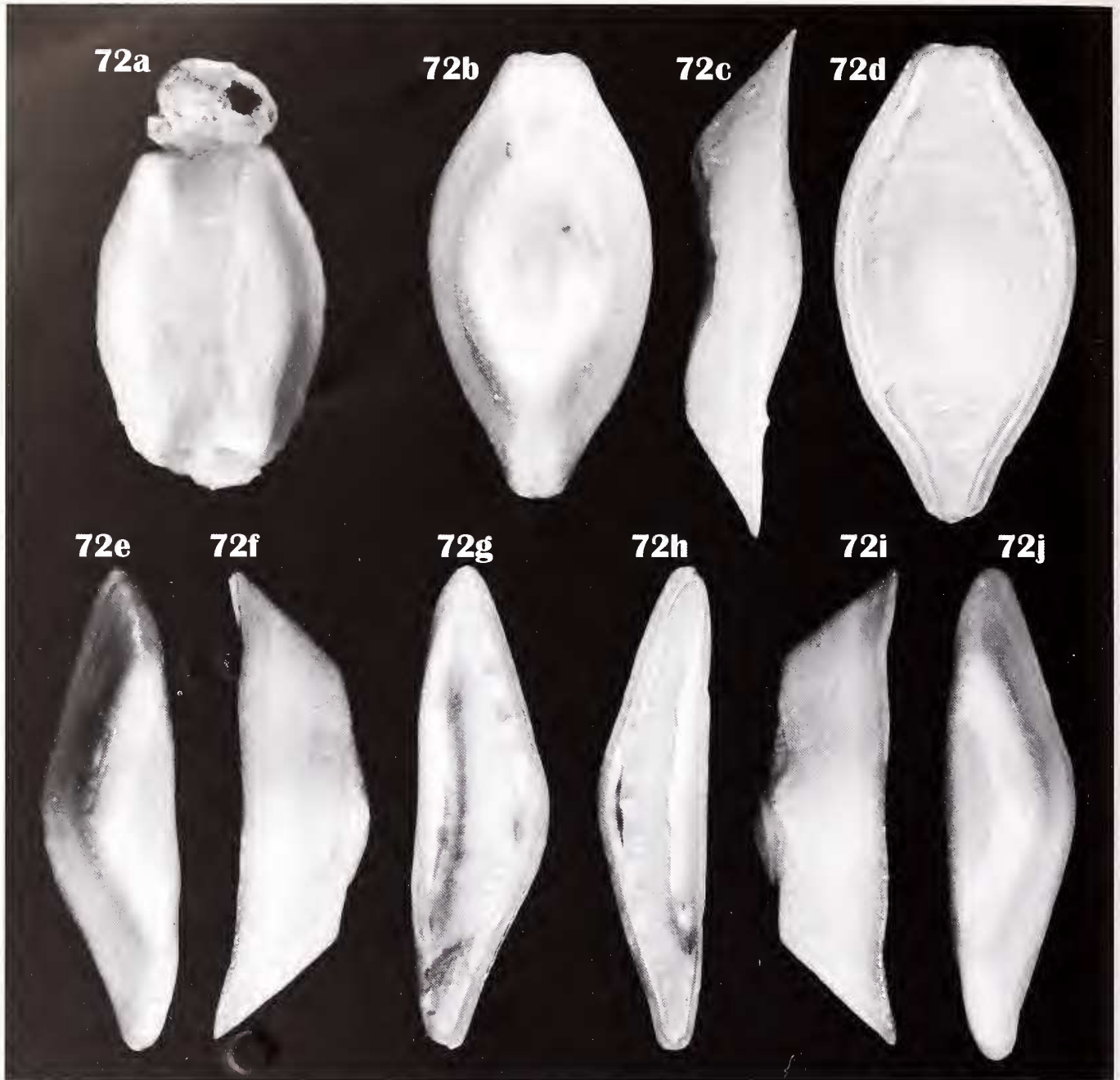
The authorship on the name *P. monterosati* has been ascribed to

other authors in the past. All agree on the fact that Jeffreys did never validly introduced the name, nevertheless either VAYSSIÈRE (1885: 34-35; pl. 1, figs. 22-24), or SYKES (1905: 325; 324, fig. 1), were proposed or quoted as the actual author (PRUVOT-FOL, 1954: 67; BOUCHET, 1975: 358; WARÈN, 1980: 36; VAN DER LINDEN, 1995: 69; also NORDSIECK, 1972: 22, and NORDSIECK & GARCÍA-TALAVERA, 1979: 171, ascribed the species to Vayssièrè though with the date «1875»). The original description by MONTEROSATO (1874) is brief, though less brief than his habits; nevertheless it is a valid one in the sense of the ICZN (1999: Art. 12.1), the first to make the name available. The type material of *P. monterosati* is thus that on which he based the description, kept totally or partially in the ZMR.

This species lives in the Northeast Atlantic and Mediterranean waters. It does not have, like some congeneric species of the same area, a wide bathymetric range, and is known to inhabit only relatively deep waters, namely the outer shelf and bathyal detritic-muddy bottoms. PRUVOT-FOL (1954: 67) briefly summarized the morphology of shell, radula and gizzard plates; later BOUCHET (1975: 356-357; ibidem, figs. 19a-d; pl. 4, fig. j) described the radula (1.1.0.1.1), the gizzard plates, and the male genital apparatus, giving schematic drawings, and a photo of a shell from the Sykes coll. ("Porcupine" Expedition); a rather unclear photo of the shell was published also by BIONDI & DI PACO (1981: 279, fig. 12). Otherwise not very much is known on this species.

We figure herein the three gizzard plates of a syntype (Fig. 65a-c), somewhat damaged and attacked by butyric acid, and the gizzard, with its fresher plates, and the radular teeth of a specimen from off Vibo Marina (Calabria, Southwest Italy; R. Ardovini legit; Figs. 71a-d, 72a-j). The plates are whitish, with a light brown external layer of conchioline, more evident on the edges, and rapidly desquamating after dehydration. They are apparently calcareous, however we did not chemically test them. As noticed by PRUVOT-FOL (1954) and BOUCHET (1975) the lateral teeth are denticulate along the cutting edge. This character is frequent in philinid gastropods. The marginals are narrow, sharply stylus-like in shape. The animals preserved in alcohol are pale flesh coloured, with a slender subtriangular cephalic shield, long slightly less than a half of the total length.

The shell of *P. monterosati* may reach a medium-large size for the genus (the largest syntypes has a height = 11 mm, Figs. 65d-f) and is characterised by its rounded outline, not oblique. Also in lateral view it looks evenly rounded and slightly swollen. The chain-like rows of linked pits are very fine and close to each other on *P. monterosati*, frequently losing their chain-like aspect on the large shells, especially on the dead ones, when the pits become more coalescent within slightly winding and irregular lines (cf. Figs. 69, and 70). This could explain why DAUTZENBERG (1891: 613) described the species as simply sculptured by close spiral lines. Although very similar to *Philine quadrata* (S.V. Wood, 1839), it is distinguished by a set of characters. *P. quadrata* lacks a gizzard and has a different radular formula (2.1.0.1.2) (RUDMAN, 1972: 172; the radula was drawn by SARS, 1878: anatomical pl. XII, fig.7). Its shell (Figs. 64a-c) is not so large, albeit is more solid. Its outline is less evenly rounded, being more oblique and squared in frontal view. Also laterally observed it appears less rounded, and shows the widest depth well above the medium height of the shell, not at about the medium



Figs. 72a-j: *Philine monerosati*, Vibo Marina; Fig. 72a: gizzard observed from the side of the paired plates (length: 6 mm ca); Figs. 72b-d: unpaired gizzard plate, respectively internal, lateral and external sides (h: 4.8 mm); Figs. 72e-g: paired gizzard plate, respectively internal, lateral and external sides (h: 4.2 mm); Figs. 72h-j: the other paired gizzard plate, respectively external, lateral and internal sides (h: 4.2 mm) - (From the same spm. as in Figs. 63a-b).

height as in *monerosati*. Its spiral sculpture is more distinctly catenoid even on large shells, and on very young specimens it is easy to notice that the pits are more rounded and larger in diameter. The columella of *quadrata* is less arched, and its penultimate whorl is taller than in *monerosati*. The protoconchs are very similar in size and shape (Figs. 66,67, 68). They do not belong to the group of congeneric species with coarsely sculptured protoconchs – e.g. *Philine intricata*, *P. catena*, etc. – the surface being apparently smooth.

striatula, *Philine* Monterosato, 1874, ex Jeffreys MS.

First valid introduction - MONTEROSATO (1874: 281 \207) by means of a description.

Type material - Two shells (Figs. 75a-b) from Cape San Vito (Trapani, Western Sicily); 1 partially preserved spm. + 12 shs. + some frgs. (Figs. 73a-c), from Palermo, Sicily, unrecorded depth (a «P.» is



marked on the tube cork, standing for "Palermo"); original labels: on the bottom of the box two labels: «*Philine incerta* n. sp. [illegible, covered by an other word] Palermo 30 m anche d'Algieri 40 m (Joly)» and «*Philine striatula*, Jeffr. Palermo e S. Vito!»; in the tube of the lot from San Vito «S. Vito».;. All the material was found in the box 16322.

Remarks - MONTEROSATO (1872: 55 \137\ recorded *Philine striatula* (as a nomen nudum), from Palermo. Later on he described the species in a paper on the molluscs of Cape San Vito (MONTEROSATO, 1874), remarking its origin from deep water. All the material of *P. striatula* was in the box 16322. There is material labelled as from Cape San Vito and Palermo, but a lot of 4 shells from Palermo is labelled «Pal. 1886», thus not being type material. A further vial, however, containing shells and fragments - a fragment belongs to *Philine angulata* Jeffreys, 1867 - displays a «P.» marked on the cork («P.» always stands for "Palermo"). Though lacking any inner label this lot is here regarded as type material. The lot from Algiers, 40 m, sent by Joly, mentioned on the bottom label, is apparently lost.

Despite having been ascribed in recent literature to the Familia Diaphanidae Odhner, 1914, genus *Colobocephalus* M. Sars, 1870, *Philine striatula* turns out to be an actual member of *Philine*. It is a full valid species, closely reminiscent of *Philine punctata* (J. Adams, 1800). The shell (Figs. 73a-c, 74a-b, 75a-b) is characterised by the a more slender outline and a protoconch more protruding than usual for the genus, as well as by very fine and close set chain-like rows of linked pits. Nothing is yet known about the animal, apart from the occurrence of few foraminiferans in the poor dry residues of the soft parts obtained from stomachs of flatfishes (Fam. Pleuronectidae), captured along the West African coast (F. Gubbioli legit).

Ordo THECOSOMATA Blainville, 1824

Familia PERACLIDAE Tesch, 1913

diversa, *Spirialis* Monterosato, 1875

First valid introduction - MONTEROSATO (1875: 50 \276\ by means of a description.

Type material - Four shs. and a few fragments from Palermo, 210-280 m, from the drawer A-1, box 51 (original label: recto: «*Spirialis diversa* Monts. n. sp. Palermo 210-280 m!»; verso: «*S. diversa* Monts. Palermo 280 m!») (Figs. 76a-c).

Remarks - MONTEROSATO (1875) described the shell as similar to *Spirialis reticulata* (d'Orbigny, 1836) (now *Peracle reticulata*) but with a less slender spire, a serrated suture, and a surface not covered by a network-like sculpture. He pointed out Palermo, 210-280 m, as provenance. The label in the tube of the syntypes matches with the depth noted below the description. The further material in the box 51 is more doubtful: the other lots do not contain labels, making doubtful their origin. Two labels on the bottom of the box read «*Peracle diversa* Monts. Palermo! Anche atlantica (Fischer)» and «*Peracl. diversa* Monts. Portogallo (Marshall)», respectively. These labels are obviously later than the original description, using also a

new combination with the genus *Peracle* Forbes, 1844; therefore it may be concluded that the tubes without labels do not contain syntypes. GAGLINI (1991: 22, unnumbered fig.) photographed a syntype (a shell with a height = 1.4 mm) from the Monterosato coll., and the original label. Despite she seems to point out the occurrence of more material in the Monterosato coll., yet few shells are conserved now. Two further shells from the Monterosato coll. were figured by GAGLINI & VILLARI (1994: 308, the two shell on the upper row), together with the original label, being probably two syntypes too.

VAN DER SPOEL (1976: 29-30) judged *Spirialis diversa* Monterosato as a probable nomen nudum, but considered it as the same of *Peracis bispinosa* Pelseneer, 1888. However the name by Monterosato is available (ICZN, 1999: Art. 12.1) since its telegraphic yet effective description of 1875, which points out the main characters of the shell. GIOVINE (1988: 24), GAGLINI (1991: 14; 22, unnumbered figs.), and GAGLINI & VILLARI (1994) concluded that *Peracle diversa* should be regarded as a senior synonym of *Peracle apicifulva* Meisenheimer, 1906, rather than *P. bispinosa*, a view shared by us. The major morphological feature is the same for *P. diversa* and *P. apicifulva*, namely the serrated suture, quite characteristic and usually evident also on worn or damaged shells. We have scored at the SEM many irregularly shattered spiral lines, less evident, arranged among the main lines which sculpture the surface as a so called "Van Dyck pattern" (Fig. 76b). The wide distribution of this species in temperate and warm waters is summarised by means of a map by VAN DER SPOEL (1976: 408, fig. 170, as «*P. apicifulva*»). Its living occurrence in the Mediterranean waters is still to be confirmed (BEDULLI *et al.*, 1995: 23), the shells from Mediterranean sediments possibly belonging to the late Pleistocene.

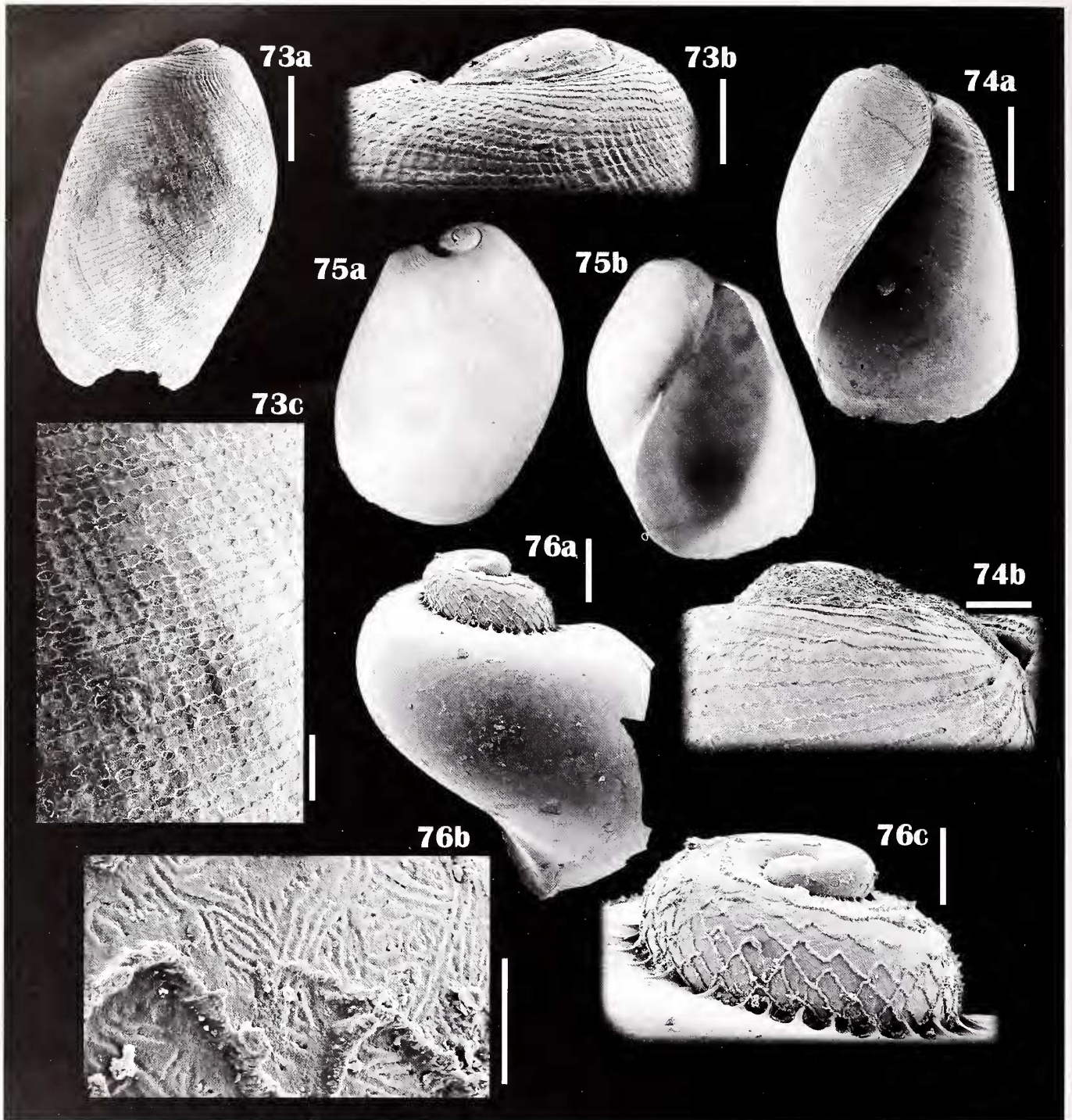
Opisthobranch specific names not of Monterosato

A few opisthobranch specific names have been erroneously ascribed to the authorship of Monterosato in some works. A part of these names are in fact nomina nuda in Monterosato's works, or even simple nomina in schedis, yet others have no relation to the Marquis at all. Here we have tried to summarise as completely as possible these erroneous attributions as follow:

- *detruncata*, *Tornatina* as of Monterosato, 1900 : LOCARD, (1905: 60). This name was never published by Monterosato. The authorship is to ascribe to Locard, 1905.

- *globosa*, *Bulla* as of Monterosato, 1902 MS. : LOCARD (1905: 43). The latter author himself noticed that the name was introduced by JEFFREYS (1867: 438) as *Bulla hydatis* var. *globosa*. Therefore the latter is the actual author of the name, raised to specific rank by LOCARD (1905).

- *membranacea*, *Philine* [or *Laona*] as of Monterosato MS. or Monterosato, 1880. Some authors - i.e. NORDSIECK (1972: 21), GAGLINI (1991: 12) - quoted this name followed by that of the Sicilian malacologist, although usually noticing that in his works it is simply a nomen nudum. This is right because *Philine membranacea* appears in MONTEROSATO (1880: 78 \562\ only, without any description or indication. In fact the name was made available by SYKES (1905: 324, fig. 2) by means of a drawing of the shell, an indication in the



Figs. 73-75: *Philine striatula*; Figs. 73a-c: syntype, Palermo, unrecorded depth, shell, shell top, and detail of sculpture on the central part of the body whorl; Figs. 74a-b: Vibo Marina, mud 300 m, shell and shell top (R. Ardevini legit; RV coll.); Figs. 75a-b: syntype, Cape San Vito, unrecorded depth (h: 3.5 mm). Figs. 76a-c: *Peracle diversa*, syntype of *Spirialis diversa*, Palermo, 210-280 m, shell, detail of sculpture, and shell top. Scale bars: 500 μ m (73a, 74a), 200 μ m (73b; 76a); 100 μ m (73c, 74b, 76c); 20 μ m (76b).

sense of the ICZN (1999: Art. 12.2.7). Thus the name should be quoted as: *Philine membranacea* Sykes, 1905, ex Monterosato MS.

- *obesiuncula*, *Cylichna* as of Monterosato, 1878 : LOCARD (1897: 71; 1905: 56) and BOUCHET (1975: 334) ascribed this species to the Marquis, who never published this name, actually introduced by

BRUGNONE (1877: 39-40; pl. 1, fig. 7). This name is present in the Monterosato coll. as a nomen in schedis. The labels show that Monterosato considered this species a full valid one, still not described. Later on, probably noticing the description by Brugnone, he employed the name *C. obesiuncula*, reporting also the opinion by Jef-



freys, who considered the species as distinct from *Cylicbna ovata* Jeffreys in W.B. Carpenter & Jeffreys, 1871 (however cf. TRINGALI & OLIVERIO, 2001, this Volume, about its synonymy with *Pyrumulus ovatus*).

- *pyriformis* [or *piriformis*], *Retusa* (*Coleophysis*) as of Monterosato 1878 : NORDSIECK (1972: 34; 237, fig. 7), SETTEPASSI et al. (1976: 26), GROSSU (1986: 431; ibidem fig. 200), and KOUTSOUBAS & KOUKOURAS (1993: 193). *Utriculus truncatulus* var. "*piriformis*" [sic] by MONTEROSATO (1878a: 110 \424; 1884: 142 \798) is a nomen nudum. Therefore the author of the name is actually NORDSIECK (1972). Anyway the material labelled *Utriculus truncatulus* var. "*piriformis*" by Monterosato (ZMR) seems to match quite closely the drawing and description by NORDSIECK (1972) and it is likely that the German malacologist had examined it during a visit to the ZMR. It is difficult to judge whether this very slender form related to *Retusa truncatula*, with its sinuous outline and wide diameter of the top, is a distinct species, or a simple form of *truncatula*, as we provisionally regard it.

- *subquadrata*, *Bulla* as of Monterosato, 1902 MS. : LOCARD (1905: 43). The authorship of this taxon never published by Monterosato is in fact by Locard, 1905.

ACKNOWLEDGEMENTS

We would like to thank the Organisers of the International Workshop on Opisthobranchs for their invitation to assist. Claudio Manicasteri, Vincenzo Vomero, Marina Moroli, and all the other members of the scientific staff at the ZMR give us a continuous encouragement to carry on this work. Serge Gofas (University of Malaga), Tom Schiøt (Zool. Mus., University of Copenhagen), and an anonymous reviewer gave very valuable suggestions. SEM work has been carried out at LIME center of "Roma TRE" University of Rome. Roberto Ardevini, Italo Nofroni, Mauro Pizzini, Sergio Farinelli (Rome), Duilio Di Massa (Trieste), Franco Gubbioli (Marbella, Malaga), Christoffer Schander (University of Göteborg), Enrico Talenti (Incisa Valdarno, Firenze), and Raimondo Villa (Anaguillara Sabazia, Rome) kindly made available malacological material from their own collections. The Librarians of the Accademia dei Lincei (Rome) offered a valuable support during our frequent bibliographic consultations.

REFERENCES

ABBOTT, R.T., 1982. A tribute. In: MONTEROSATO, T. Di Maria marchese di, *Opera omnia*, Edited by R. GIANNUZZI-SAVELLI, Published by Società Italiana di Malacologia, Palermo, Vol. 1: vii-viii.

ANONYMOUS, 1976. First International Marine Shell Exhibit, Rome, October 5-30, 1976. *La Conchiglia*, Roma, 8 (85-86): 19.

BEDULLI, D., CATTANEO-VIETTI, R., CHEMELLO, R., GHISOTTI, F., & GIOVINE, F., 1995. Gastropoda Opisthobranchia, Divasibranchia, Gymnomorpha. In: MINELLI, A., RUFFO, S., & LA POSA, S., (Eds.), *Checklist delle Specie della Fauna Italiana*, Ed. Calderini, Bologna, No. 15, 24 pp.

BIONDI, F., & DI PACO, G., 1981. Molluschi poco conosciuti dell'Arcipelago Toscano. Gastropoda. (Contributo 3°). *Bollettino Malacologico*, Milano, 17 (11-12): 271-280.

BOGI, C., & GALLI, B.S., 1997. Discoveries along the Israeli coast. *La Conchiglia*, Roma, 29 (284): 42-45.

BOUCHET, P., 1975. Opisthobranchs de profondeur de l'Océan Atlantique. 1. Cephalaspidea. *Cahiers de Biologie Marine*, Paris, 16: 317-365; pls. 1-4.

BROWN, G.H., 1979. An investigation of the anatomy of *Colpodaspis pusilla* (Mollusca: Opisthobranchia) and a description of a new species of *Colpodaspis* from Tanzanian coastal waters. *Journal of Zoology*, London, 187: 201-221.

BRUGNONE, G., 1877. Osservazioni critiche fatte dall'Ab. Giuseppe Brugnone sul Catalogo delle conchiglie fossili di Monte Pellegrino e Ficcarazzi del Marchese di Monterosato. *Bollettino della Società Malacologica Italiana*, Pisa, 3: 17-

46; pl. I.

CARUS, J.V., 1893. *Prodromus Faune Mediterraneae*, E. Schweizerbart'sche Verlagshandlung, Stuttgart, Vol. 2, 854 pp.

CECALUPO, A., GIUSTI, Fr., 1989. Rinvenimenti malacologici a sud-ovest dell'isola di Capraia (LI). Parte II. *Bollettino Malacologico*, Milano, 25 (1-4): 97-109.

CICCONE, G., & SAVONA, S., 1982. Il genere *Ringicula* Deshayes, 1838, nel Mar Mediterraneo. *Bollettino Malacologico*, Milano, 18 (1-4): 17-34.

CLENCH, W.J., & TURNER, R.D., 1962. New names introduced by H.A. Pilsbry in the Mollusca and Crustacea. *Academy of Natural Science of Philadelphia, Special Publications*, Philadelphia, No. 4, 218 pp.

COEN, G., & VATOVA, A., 1932. Malacofauna arupinensis. *Tbalassia*, Venezia, I (1): 1-53; 1 pl.

DAUTZENBERG, P., 1891. Campagnes scientifiques du yacht l'"Hirondelle" en 1886: Contribution a la faune malacologique du golfe de Gascogne. *Mémoires de la Société Zoologique de France*, Paris, 4: 604-619; pls. XVI-XVII.

DAUTZENBERG, P., 1928. (Nécrologie:) Marquis de Monterosato (1841-1927). *Journal de Conchyliologie*, Paris, 72 (1): 69-73.

FISCHER, P., 1884. Description d'un nouveau genre de mollusque fossile. *Journal de Conchyliologie*, Paris, 32 (January 1st, 1884): 20-22; pl. II.

GAGLINI, A., 1987. Spigolature... monterosatiene. *Notiziario C.I.S.Ma.*, Roma, 9: 3-15.

GAGLINI, A., 1991. Seconde spigolature... monterosatiene. *Notiziario C.I.S.Ma.*, Roma, (1990-1991) [1991], 12-13: 1-22.

GAGLINI, A., 1992. Terze spigolature... monterosatiene. *Argonauta*, Roma, (1991) [1992], 7 (1-6): 125-180.

GAGLINI, A., & VILLARI, A., 1994. Priorità di *Peracle diversa* Monterosato, 1875 su *Peracle apiciflva* Meisenheimer, 1906. *Bollettino Malacologico*, Milano, (1993) [1994], 29 (9-12): 307-310.

GARSTANG, W., 1894. On the gastropod *Colpodaspis pusilla* of Michael Sars. *Proceedings of the Zoological Society*, London, (for November 20th, 1894): 664-669; pl. XLIV.

GIANNUZZI-SAVELLI, R., 1989. Indici specifici. In: MONTEROSATO, T. Di Maria marchese di, *Opera omnia*, Edited by R. GIANNUZZI-SAVELLI, Published by Società Italiana di Malacologia, Palermo, Vol. 4: 1417-1792.

GIANNUZZI-SAVELLI, R., & PIANI, P., 1990. Revisione nomenclaturale dei taxa specifici monterosatiene. In: CROVATO, P., & RUSSO, G.F., (Eds.), *Atti del II° Congresso Società Italiana di Malacologia*, Sorrento 29-31 Maggio 1987. *Lavori S.I.M.*, Napoli, 23: 141-199.

GIOVINE, F., 1988. The genus *Peracle* in the Mediterranean (Heterobranchia: Peracidae). *La Conchiglia*, Roma, 20 (226-227): 22-24.

GROSSU, A.V., 1986. *Gastropoda Romaniaae*. 1 (I. *Caracterele generale, istorical ̀i biologia gastropodelor*. II. *Subclasa Prosobranchia ̀i Opisthobranchia*), Editura Litera, Bucarest, 524 pp.

ICZN [= International Commission on the Zoological Nomenclature], 1999. *International Code of the Zoological Nomenclature, Fourth Edition. Adopted by the International Union of Biological Science*, International Trust for the Zoological Nomenclature, Padova, xxix + 306 pp.

JEFFREYS, J.G., 1867. *British Conchology*, J. Van Voorst, London, Vol. 4, 486 pp.; 8 pls.

JEFFREYS, J.G., 1870. Mediterranean Mollusca [1]. *The Annals and Magazine of Natural History*, London, Ser. 4, 6: 65-86.

KOBELT, W., 1895-1896. Die Familie Bullidae. In: KÜSTER, H.C., & KOBELT, W., (Eds.), *Systematisches Conchylien-Cabinet von Martini und Chemnitz. in Verbindung mit Dr. Philippi, Dr. L. Pfeiffer, Dr. Dunker, Dr. Römer, H.C. Weinkauff, S. Clessin, Dr. A. Brot, Th. Lübbecke und Dr. E. von Martens, Neu Herausgegeben und Vervollständigt*, Verlag Bauer & Raspe (E. Küster), Nürnberg, (1896) [1895-1896], Vol. I, Part No. 9, 190 pp.; 21 pls. (= pls. A-B + 1-19)

KOUTSOUBAS, D., & KOUKOURAS, A., 1993. An account of our knowledge on the opisthobranch molluscs fauna of the Aegean Sea. In: CATTANEO-VIETTI, R., (Ed.), *Eleventh International Malacological Congress*, Siena, 30th August - 5th September 1992: Workshop on Systematics and Ecology in the Opisthobranchs. *Bollettino Malacologico*, Milano, 29 (5-8): 191-200.

LEMICHE, H., 1948. Northern and Arctic tectibranch gastropods. 1, the larval shells. 2, revision of the cephalaspis species. *Biologiske Skrifter*, Copenhagen, 5 (3): 1-136.

LOCARD, A., 1892. *Les Coquilles Marines des Côtes de France. Description de Familles, Genres et Espèces*, Librairie J.-B. Baillière & Fils, Paris, 384 pp.

LOCARD, A., 1897. Mollusques testacés (Tome Premier). In: MILNE-EDWARDS, A., (Ed.), *Expédition Scientifique du Travailleur et du Talisman pendant les Années 1880, 1881, 1882, 1883*, Masson et C.^{ie} Éditeurs, Paris: 1-516; pls. 1-22.

LOCARD, A., 1905. Les opisthobranchs et hétérobranchs testacés des mers d'Europe. *Annales de la Société d'Agriculture, Sciences et Industrie*, Lyon, (1904) [1905], Ser. 8, 2: 25-77.



- LOCARD, A., & CAZIOT, E., 1900. Les coquilles marines des côtes de Corse. *Annales de la Société Linnéenne de Lyon*, Lyon, (1899) [1900], 47: 159-291.
- MIKKELSEN, P.M., 1996. The evolutionary relationships of the Cephalaspeida s.l. (Gastropoda: Opisthobranchia): a phylogenetic analysis. *Malacologia*, Philadelphia, 37 (2): 375-442.
- MONTEROSATO, T. Di Maria marchese di, 1869-1923. *Opera omnia*, Edited by R. GIANNUZZI-SAVELLI, Collected reprints issued 1982-1989 by the Società Italiana di Malacologia, Palermo, 4 Vols., xvi + 1792 pp.
- MONTEROSATO, T. Di Maria marchese di, 1872. *Notizie intorno alle conchiglie mediterranee*, Printed by Stabilimento Tipografico M. Amenta [for the author], Palermo, 61 pp.
- MONTEROSATO, T. Di Maria marchese di, 1874. Recherches conchyliologiques effectuées au cap Santo Vito [sic], en Sicile. *Journal de Conchyliologie*, Paris, 22 (July 1st, 1874): 243-282.
- MONTEROSATO, T. Di Maria marchese di, 1875. Nuova rivista delle conchiglie mediterranee. *Atti dell'Accademia Palermitana di Scienze, Lettere ed Arti*, Palermo, Sect. 2-a, 5: 1-50.
- MONTEROSATO, T. Di Maria marchese di, 1877. Note sur quelques coquilles provenant des côtes d'Algérie. *Journal de Conchyliologie*, Paris, 25 (January 1877): 24-49; pls. II-III.
- MONTEROSATO, T. Di Maria marchese di, 1878a. Enumerazione e sinonimia delle conchiglie mediterranee. *Giornale di Scienze Naturali ed Economiche*, Palermo, 13: 61-115.
- MONTEROSATO, T. Di Maria marchese di, 1878b. Note sur quelque coquilles draguées dans les eaux de Palerme. *Journal de Conchyliologie*, Paris, 26: 143-160.
- MONTEROSATO, T. Di Maria marchese di, 1878c. Note sur quelques coquilles provenant des côtes d'Algérie - Supplément. *Journal de Conchyliologie*, Paris, 26: 313-321.
- MONTEROSATO, T. Di Maria marchese di, 1880. Conchiglie della zona degli abissi. *Bollettino della Società Malacologica Italiana*, Pisa, 6: 50-82.
- MONTEROSATO, T. Di Maria marchese di, 1884. *Nomenclatura generica e specifica di alcune conchiglie mediterranee*, Printed by Stabilimento Tipografico Virzi [for the author], Palermo, 152 pp.
- MONTEROSATO, T. Di Maria marchese di, 1890. Conchiglie delle profondità del mare di Palermo [part 3]. *Il Naturalista Siciliano*, Palermo, 9 (8): 181-191.
- MONTEROSATO, T. Di Maria marchese di, 1896. Note intorno alle najadi Siciliane. *Il Naturalista Siciliano*, Palermo, (New Ser.: 1-3), 15: 6-20.
- MONTEROSATO, T. Di Maria marchese di, 1906. Articolo sulle Auriculidae, Assiminiidae e Truncatellidae dei mari d'Europa. *Il Naturalista Siciliano*, Palermo, 18 (6): 125-130.
- MONTEROSATO, T. Di Maria marchese di, 1923. Molluschi delle coste cirenaiche raccolti dell'Ing. Crema. *Regio Comitatus Talysografico Italiano, Memorie*, Roma, 106: 14 pp.; 1 pl.
- MORENO, D., & TEMPLADO, J., 1998. Nuevas aportaciones al conocimiento de los opistobranquios del sureste español. II. *Iberus*, Oviedo, 16 (2): 39-58.
- NORDSIECK, F., 1972. *Die Europäischen Meeresschnecken (Opisthobranchia mit Pyramidellidae; Rissoacea)*. Vom Eismeer bis Kapverden, Mittelmeer und Schwarzes Meer, G. Fischer Verlag, Stuttgart, viii + 327 pp.
- NORDSIECK, F., & GARCIA-TALAVERA, F., 1979. *Moluscos Marinos de Canarias y Madeira (Gastropoda)*, Aula de Cultura de Tenerife (printed in Madrid), 208 pp.; 46 pls.
- OLIVERIO, M., 2000. Stato delle conoscenze sulla malacofauna marina italiana. In: CHEMELLO, R., & MANGANELLI, G., (Eds.), "La Conservazione della Natura e dei Molluschi", Atti del 1° Workshop Internazionale di Malacologia, Istituzione Culturale Federico II, Menfi, 5-7 giugno 1998. *Bollettino Malacologico*, Roma, 36 (1-4): 43-48.
- PALLARY, P., 1902. Liste des mollusques testacés de la baie de Tanger. *Journal de Conchyliologie*, Paris, 50 (1): 1-39; pl. I.
- PALLARY, P., 1920. Malacologie. In: *Exploration Scientifique du Maroc, Organisée par la Société de Géographie de Paris et Continué par la Société des Sciences Naturelles du Maroc*. L'Institut Scientifique Chérifien, Rabat, & É. Larose Editeur, Paris, (1912) [1920], 2, 107 pp.; 1 pl; 1 map.
- PIANI, P., 1980. Catalogo dei molluschi conchiferi viventi nel Mediterraneo. *Bollettino Malacologico*, Milano, 16 (5-6): 113-224.
- PIANI, P., 1982. La vita. In: MONTEROSATO, T. Di Maria marchese di, *Opera omnia*, Edited by R. GIANNUZZI-SAVELLI, Published by Società Italiana di Malacologia, Palermo, Vol. 1: ix-xii.
- PIANI, P., 1984. Della "Collezione Monterosato" di G.S. Coen e di altre cose ancora. *Bollettino Malacologico*, Milano, (1983) [1984], 19 (9-12): 273-278.
- PIERSANTI, C., 1942. La collezione conchigliologica "Monterosato-Beltrani". *Capitolium, Rassegna Mensile del Governatorato*, Roma, 17 (8): 249-253.
- PILSBRY, H.A., 1895a. *Manual of Conchology*, by G.W. TRYON jr., continuation by H.A. PILSBRY, Published by the Conchological Section, Academy of Natural Science of Philadelphia, Philadelphia, Vol. 15 (No. 60): 181-436; pls. 43-50 + 59-61 (pp. and pls. of the issue fide CLENCH & TURNER, 1962: 173).
- PILSBRY, H.A., 1895b. *Manual of Conchology*, by G.W. TRYON, jr., continuation by H.A. PILSBRY, Published by the Conchological Section, Academy of Natural Science of Philadelphia, Philadelphia, Vol. 16 (No. 61): 1-48; pls. I-XVI (61 (pp. and pls. of the issue fide CLENCH & TURNER, 1962: 173)).
- PRUVOT-FOL, A., 1954. Mollusques opisthobranches. In: *Fédération Française des Sociétés de Sciences Naturelles, Office Central de Faunistique, Faune de France*, P. Lechevalier, Paris, 58, 460 pp.; 1 pl.
- REHDER, H.A., 1988. *The Audubon Society Field Guide to North American Seashells*, (1981), 4th reprint, A.A. Knopf Inc., New York, iv + 167 pp.
- RUDMAN, W.B., 1972. The genus *Philine* (Opisthobranchia, Gastropoda). *Proceedings of the Malacological Society of London*, London, 40: 171-187.
- SABELLI, B., GIANNUZZI-SAVELLI, R., & BEDULLI, D., 1990-1992. *Catalogo Annotato dei Molluschi Marini del Mediterraneo - Annotated Check-List of the Mediterranean Marine Mollusks*, Edizioni Libreria Naturalistica Bolognese, Bologna, 3 Vols., xiv + 781 pp.
- SARS, O.G., 1878. *Bitrag til Kundskaben om Norges Arktiske Fauna. 1. Mollusca Regionis Arcticae Norvegiae. Oversigt over de i Norges Arktiske Region Forekommende Bløddyr*, Christiania [= Oslo], xiii + 466 pp.; 34 + 18 [anatomical] pls.; 1 map.
- SCHIÖTTE, T., 1998. A taxonomic revision of the genus *Diaphana* Brown, 1827, including a discussion of the phylogeny and zoogeography of the genus (Mollusca: Opisthobranchia). *Stenstrupia*, Copenhagen, 24 (1): 77-140.
- SETTEPASSI, F., 1985. Ricordo di Monterosato. In: SETTEPASSI, F., *Atlante Malacologico, i Molluschi Marini Viventi nel Mediterraneo*, Vol. 3, (postumous; completed and edited by A. GAGLINI), Edizioni C. Settepassi - Atlante Malacologico, Roma: 8 pp.
- SETTEPASSI, F., SCHIRO, G., & ZANARDI, G., 1976. Elenco dei molluschi conchiferi del Mediterraneo. In: *Comune di Roma, Assessorato al Giardino Zoologico e ai Problemi della Cultura, Prima Mostra della Conchiglia Marina, ad Esposizione del Francobollo a Soggetto Malacologico, Palazzo Braschi, 5-31 Ottobre 1976* [Catalogue of the Exhibit], Roma: 11-35.
- SMITH, S.T., 1967. The development of *Retusa obtusa* (Montagu) (Gastropoda, Opisthobranchia). *Canadian Journal of Zoology*, Ottawa, 45 (5): 737-764.
- SMRIGLIO, C., & MARIOTTINI, P., 1996. Central Tyrrhenian Sea Mollusca: XI. Description of *Callostracon tyrrhenicum* sp. nov. (Gastropoda, Acteonidae) and remarks on the other Mediterranean species of the family Acteonidae d'Orbigny, 1835. *Basteria*, Leiden, 60 (4-6): 183-193.
- SYKES, E.R., 1905. On the Mollusca procured during the "Porcupine" Expeditions, 1869-1870. Supplemental notes, part 2. *Proceedings of the Malacological Society of London*, London, 6: 322-332.
- THIELE, J., 1931. *Handbuch der Systematischen Weichtierkunde*, Gustav Fischer Verlag, Jena, Vol. 1 (Part 2): 377-778.
- TOMLIN, J.R. le B., 1930. (Obituary notice:) Marchese di Monterosato. *Journal of Conchology*, London, 19 (2): 37-40.
- TRINGALI, L.P.J., 1993. Some remarks on "Bulla" boermesi Weinkauff, 1866, and its systematic position (Mollusca: Opisthobranchia; Cephalaspeida). *Notiziario C.I.S.Ma.*, Rome, (1992) [1993], 14: 23-28.
- TRINGALI, L.P., & OLIVERIO, M., 2001, this Volume. The Recent Mediterranean species of the genus *Pyranculus* Pilsbry, 1895 (Opisthobranchia: Cephalaspeida: Retusidae). *Bollettino Malacologico*, 37(5-8): 151-162.
- VAN AARTSEN, J.J., BARASH, A., & CARROZZA, F., 1989. Addition to the knowledge of the Mediterranean Mollusca of Israel and Sinai. *Bollettino Malacologico*, Milano, 25 (1-4): 63-76.
- VAN AARTSEN, J.J., & KINZELBACH, R., 1990. Marine Mollusca from the Iztuzu beach near Dalyan (Mediterranean coast of Turkey). *Zoology in the Middle East*, Heidelberg, 4: 103-112.
- VAN DER LINDEN, J., 1994. *Philine intricata* Monterosato, 1884, an overlooked species from the North-East Atlantic and the Mediterranean Sea (Gastropoda, Opisthobranchia: Philinidae). *Basteria*, Leiden, 58 (1-2): 41-48.
- VAN DER LINDEN, J., 1995. Philinidae dredged by the CANCAP expeditions (Gastropoda, Opisthobranchia). *Basteria*, Leiden, 59 (1-3): 63-85.
- VAN DER SPOEL, S., 1976. *Pseudobacerosmata, Gymnosomata and Heteropoda (Gastropoda)*, Bohn, Scheltema & Holkema, Utrecht, 484 pp.
- VAYSSIÈRE, M.A., 1885. Recherches zoologiques et anatomiques sur les mollusques opisthobranches du golfe de Marseille. *Annales du Musée d'Histoire Naturelle de Marseille (Zoologie)*, Marseille, 2, (Memoir No. 3), 181 pp., 6 pls.
- WARÉN, A., 1980. Marine Mollusca described by John Gwyn Jeffreys, with the location of the type material. *The Conchological Society of Great Britain and Ireland Special Publications*, 1, 60 pp.; 8 pls.